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BREECHES NEEDED

WHEN people, experts included, say something can't be done, they generally mean it can't be done with existing methods or orthodox approaches. They may go on to insist that it will never be done but the statement is not valid as an opinion, and even less so as a prediction.

Thinkers can be divided into two highly unequal groups: innovators and improvers. The inequality is more than numerical: innovators are usually scorned and seldom make money; improvers have honors forced on them, along with great power and unthinkable wealth. And a still sadder inequality: innovators fully recognize the importance of improvers, but improvers often add their expert jeering to public scorn, like Charles E. Wilson's definition of basic research as "when you don't know what you're looking for," a jaunty dismissal of the fact that every auto essential was once a profitless theory.

No question that improvers are necessary. To stay with the auto industry another moment, I think foreign and domestic manufacturers are both culpable, one for making machining substitute for engineering, the other for substituting engineering for machining. But either is better than leaving carmaking to the innovators.

Improvers need no defense. When they do, they can buy all the advertising and psychiatry required to defend them. But their attitude toward visionary innovators is the best defense — if they believed that improvement is the easier part of invention, which it is, Lord knows the harm that might be done to their confidence and our comfort and convenience, not to mention our economy.

Better this way, and no irony intended. The rewards of improvement, being tangible and marketable, must be bankable; if they are not, this is the proof of failure. But the success of innovation is the innovation itself; it may eventually have cash value, but putting it into production and making it work better at lower cost should be left to the improvers.

Improvers are the best guardians of budget all the distance from prototype to the ultimate in perfection — and then they risk being spendthrifts so prodigal that, in comparison, the most drunken of sailors is like unto the soberest of judges.

For perfection, or something minutely short of it, can be attained, and often is, and the effort to improve perfection is both ungodly costly and doomed.

The airplane is a handy exam-
(Continued on page 4)

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(Continued from page 2)

ple. It was improved so remorselessly that in only a few decades it was held back by the very thing that made it fly — the propeller.

There's a logical solution. Any good innovator would think of it instantly. A breach is needed, a breakthrough — scrap the propeller, use something else instead. Luckily, the something else was there waiting.

Or was it just happenstance? Doesn't it give one to think when, every time a something else instead is called for, it appears to be right there? Quite tidily, too: the research about completed, working model or production methods or dosages on hand, the single final necessity being the order to commence manufacturing.

Well, that command is an agonizingly difficult one to give. Breakthroughs are never comfortable and neat. They destroy theories, outmode skills, junk machinery, stockpiles, inventories and know-hows. But none of that is as expensive as trying to save the investment.

Anyone who doesn't understand that the order can't — and should not — be given until the last possible moment is a visionary. Except innovators, who have no business thinking at all in such terms.

Same for any improver who gives the command too soon —

what's he doing in the ranks of the innovators?

IF you've read this far in the hope that it might start getting interesting, let me confess that I was watching something else — the way the attitude shifted from the title on; because this is exactly how science fiction gets itself written, the process alone is interesting to me.

Well, now we can sweep off the shavings and see what's left.

The title — calling for breakthroughs is unnecessary. They needn't be called—they'll come.

The bias in favor of innovators — reasonable enough; we are innovators ourselves. As tests by independent laboratories prove, these are times that try men's souls: line after line has reached the end, either of perfectability or market saturation, and the only way out is right through the wall.

But the timing — too soon is as disastrous as too late; the Pierce Arrow people produced a teardrop car in 1935, were out of business the same year. Rewards may be huge for improvers, but so are the punishments, and these are even more automatic when the timing is wrong; stereoscopic film companies went bankrupt a generation ago.

It's no wonder I've known so many happy innovators, so few ulcerless improvers.

—H. L. GOLD

**ALL ORIGINAL
STORIES**

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LASTBORN

By ISAAC ASIMOV

Illustrated by WOOD

EDITH Fellowes smoothed her working smock as she always did before opening the elaborately locked door and stepping across the invisible dividing line between the *is* and the *is not*. She carried her notebook and her pen, although she no longer took notes except when she felt the absolute need for some report.

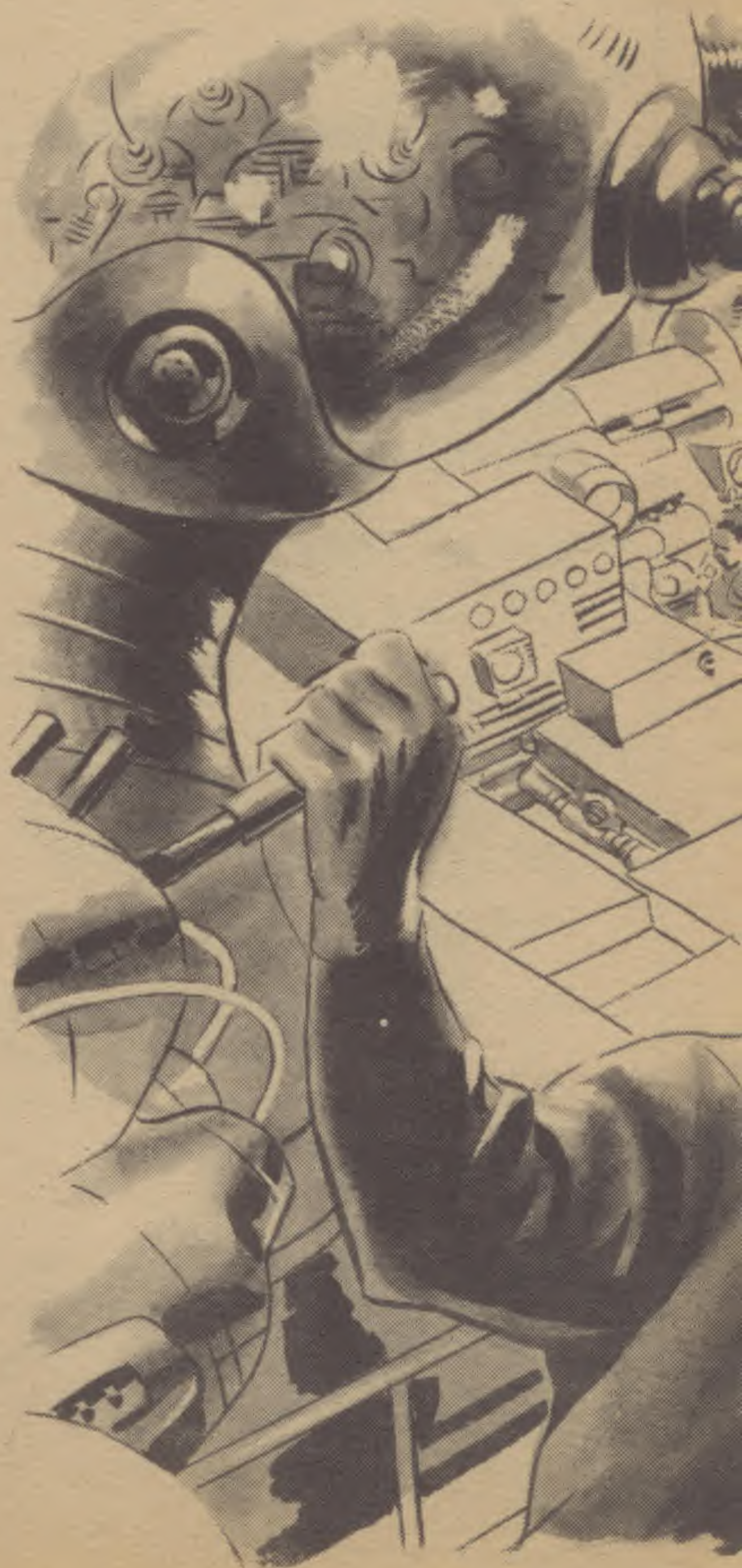
This time she also carried a suitcase. ("Games for the boy," she had said, smiling, to the guard — who had long since stopped even thinking of questioning her and who waved her on.)

And, as always, the ugly little boy knew that she had entered and came running to her, crying, "Miss Fellowes—Miss Fellowes—" in his soft, slurring way.

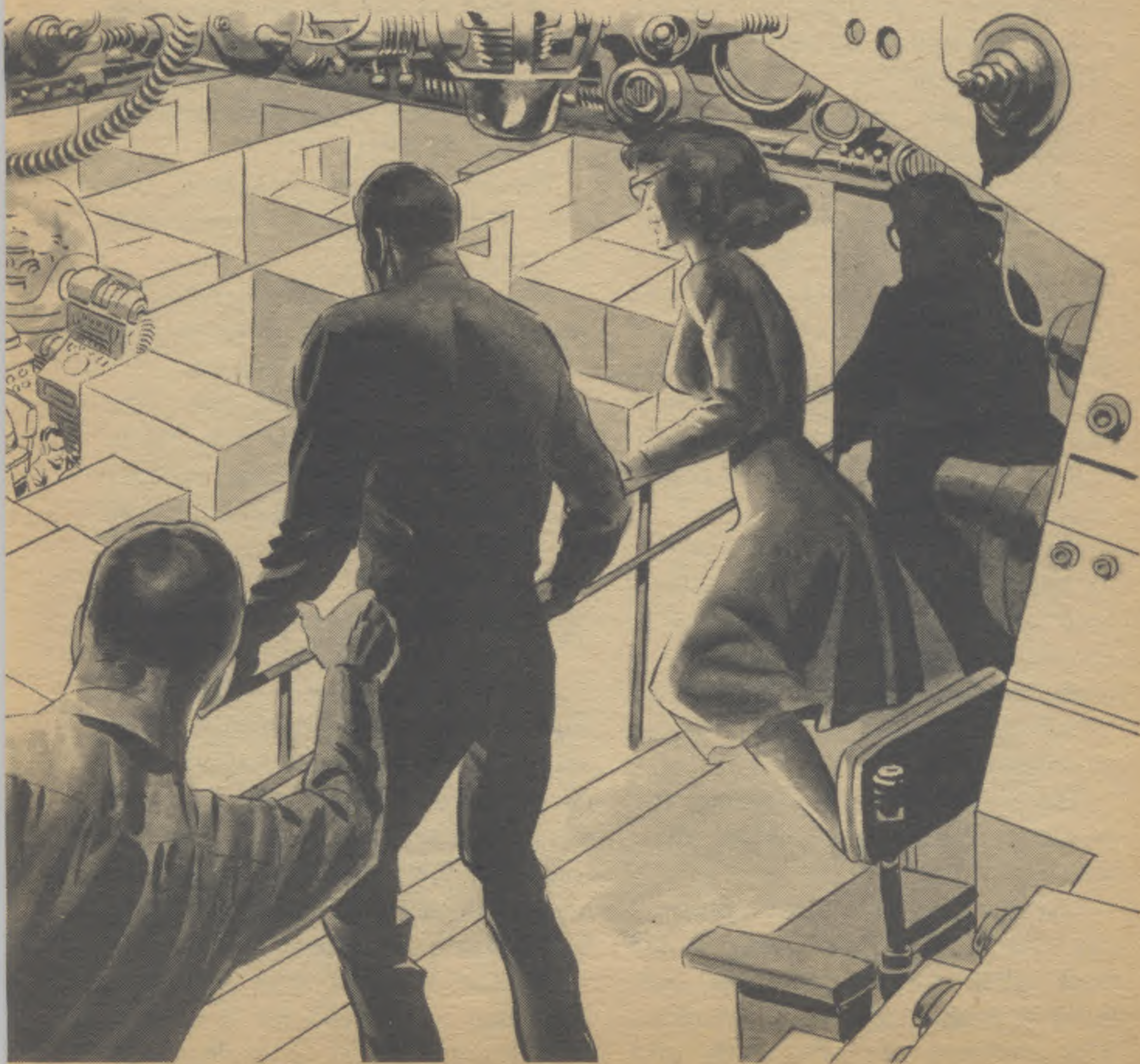
"Timmie," she said, and passed her hand over the shaggy brown hair on his misshapen little head. "What's wrong?"

He said, "Will Jerry be back to play again? I'm sorry about what happened."

"Never mind that now, Timmie.



***A scientific experiment or not, the patient
was her responsibility . . . and all the more
so for having died so many centuries ago!***



Is that why you've been crying?"

He looked away. "Not just about that, Miss Fellowes. I dreamed again."

"The same dream?" Miss Fellowes' lips set. Of course, the Jerry affair would bring back the dream.

He nodded. His too-large teeth showed as he tried to smile and the lips of his forward-thrusting mouth stretched wide. "When will I be big enough to go out there, Miss Fellowes?"

"Soon," she said softly, feeling her heart break. "Soon."

Miss Fellowes let him take her hand and enjoyed the warm touch of the thick dry skin of his palm. He led her through the three rooms that made up the whole of Stasis Section One — comfortable enough, yes, but an eternal prison for the ugly little boy for nearly half of the seven (was it seven?) years of his life.

He led her to the one window, looking out onto a scrubby woodland section of the world of *is* (now hidden by night) where a fence and painted instructions allowed no men to wander without permission.

He pressed his nose against the window. "Out there, Miss Fellowes?"

"Better places, nicer places," she said sadly as she looked at his poor little imprisoned face outlined in profile against the window. The forehead retreated flatly and

his hair lay down in tufts upon it. The back of his skull bulged and seemed to make the head over-heavy, so that it sagged and bent forward, forcing the whole body into a stoop. Already, bony ridges were beginning to bulge the skin above his eyes. His wide mouth thrust forward more prominently than did his wide and flattened nose and he had no chin to speak of, only a jaw-bone that curved smoothly down and back. He was small for his years and his stumpy legs were bowed.

He was a very ugly little boy and Edith Fellowes loved him dearly.

Her own face was behind his line of vision, so she allowed her chin the luxury of a tremor.

They would *not* kill him. She would do anything to prevent it. Anything. She opened the suitcase and began taking out the clothes it contained.

MISS Fellowes had crossed the threshold of Stasis, Inc., for the first time just a little over three years before. She hadn't the slightest idea of what Stasis meant or what the place did. No one did then, except those who worked there. In fact, it was only the day after she arrived that the news broke upon the world.

At the time, it was just that they had advertised for a woman with knowledge of physiology, ex-

perience with clinical chemistry and a love for children. Edith Fellowes had been a nurse in a maternity ward and believed she fulfilled those qualifications.

Gerald Hoskins, whose nameplate on the desk included a Ph.D. after the name, scratched his cheek with his thumb and looked at her steadily.

Miss Fellowes automatically stiffened and felt her face (with its slightly asymmetric nose and its a-trifle-too-heavy eyebrows) twitch.

He's no dreamboat himself, she thought resentfully. He's getting thick in the middle and thin on top and he's got a sullen mouth. But the salary mentioned had been considerably higher than she had expected, so she waited.

Hoskins said, "Now do you really love children?"

"I wouldn't say I did if I didn't."

"Or do you just love pretty children?"

Miss Fellowes said, "Children are children, Dr. Hoskins, and the ones that aren't pretty are just the ones who may happen to need help most."

"Then suppose we take you on—"

"You mean you're offering me the job now?"

He smiled briefly, and for a moment, his broad face had an absent-minded charm about it. He said, "I make quick decisions. So

far, the offer is tentative, however. I may make as quick a decision to let you go. Are you ready to take the chance?"

Miss Fellowes clutched at her purse and calculated just as swiftly as she could, then ignored calculations and followed impulse. "All right."

"Fine. We're going to form the Stasis tonight and I think you had better be there to take over at once. That will be at 8 P.M. and I'd appreciate it if you could be here at 7:30."

"But what—"

"Fine. Fine. That will be all now." On signal, a smiling secretary came in to usher her out.

Miss Fellowes stared back at Dr. Hoskins' closed door for a moment. What was Stasis? What had this large barn of a building—with its badged employees, its make-shift corridors, and its unmistakable air of engineering — to do with children?

She wondered if she should go back that evening or stay away and teach that arrogant man a lesson. But she knew she would be back if only out of sheer frustration. She would have to find out about the children.

SHE came back at 7:30 and did not have to announce herself. One after another, men and women seemed to know her and to know her function. She found her-

self all but placed on skids as she was moved inward.

Dr. Hoskins was there, but he only looked at her distantly and murmured, "Miss Fellowes."

He did not even suggest that she take a seat, but she drew one calmly up to the railing and sat down.

They were on a balcony, looking down into a large pit, filled with instruments that resembled a cross between the control panel of a spaceship and the working face of a computer. On one side were partitions that seemed to make up an unceilinged apartment, a giant dollhouse into the rooms of which she could look from above.

She could see an electronic cooker and a freeze-space unit in one room and a washroom arrangement off another. And surely the object she made out in another room could only be part of a bed, a small bed.

Hoskins was speaking to another man and, with Miss Fellowes, they made up the total occupancy of the balcony. Hoskins did not offer to introduce the other man, and Miss Fellowes eyed him surreptitiously. He was thin and quite fine-looking in a middle-aged way. He had a small mustache and keen eyes that seemed to busy themselves with everything.

He was saying, "I won't pretend for one moment that I understand all this, Dr. Hoskins; I mean ex-

cept as a layman, a reasonably intelligent layman, may be expected to understand it. Still, if there's one part I understand less than another, it's this matter of selectivity. You can only reach out so far; that seems sensible — things get dimmer the further you go; it takes more energy. But then you can only reach out so near. That's the puzzling part."

"I can make it seem less paradoxical, Deveney, if you will allow me to use an analogy."

Miss Fellowes placed the new man the moment she heard his name, and despite herself was impressed. This was obviously Candide Deveney, the science writer of the Telenews, who was notoriously at the scene of every major scientific breakthrough. She even recognized his face as one she saw on the newsplate when the landing on Mars had been announced. So Dr. Hoskins must have something important here.

"By all means, use an analogy," said Deveney ruefully, "if you think it will help."

"Well, then, you can't read a book with ordinary-size print if it is held six feet from your eyes, but you can read it if you hold it one foot from your eyes. So far, the closer the better. If you bring the book to within one inch of your eyes, however, you've lost it again. There is such a thing as being too close, you see."

"Hmm," said Deveney.

"Or take another example. Your right shoulder is about thirty inches from the tip of your right forefinger and you can place your right forefinger on your right shoulder. Your right elbow is only half the distance from the tip of your right forefinger; it should by all ordinary logic be easier to reach, and yet you cannot place your right finger on your right elbow. Again, there is such a thing as being too close."

Deveney said, "May I use these analogies in my story?"

"Well, of course. Only too glad. I've been waiting long enough for someone like you to have a story. I'll give you anything else you want. It is time, finally, that we want the world looking over our shoulder. They'll see something."

Miss Fellowes found herself admiring his calm certainty despite herself. There was strength there.

Deveney said, "How far out will you reach?"

"Forty thousand years."

Miss Fellowes drew in her breath sharply.

Years?

THERE was tension in the air. The men at the controls scarcely moved. One man at a microphone spoke into it in a soft monotone, in short phrases that made no sense to Miss Fellowes.

Deveney, leaning over the bal-

cony railing with an intent stare, said, "Will we see anything, Dr. Hoskins?"

"What? No. Nothing till the job is done. We detect indirectly, something on the principle of radar, except that we use mesons rather than radiation. Mesons reach backward under the proper conditions. Some are reflected and we must analyze the reflections."

"That sounds difficult."

Hoskins smiled again, briefly as always. "It is the end-product of fifty years of research; forty years of it before I entered the field. Yes, it's difficult."

The man at the microphone raised one hand.

Hoskins said, "We've had the fix on one particular moment in time for weeks; breaking it, re-making it after calculating our own movements in time; making certain that we could handle time-flow with sufficient precision. This must work now."

But his forehead glistened.

Edith Fellowes found herself out of her seat and at the balcony railing, but there was nothing to see.

The man at the microphone said quietly, "Now."

There was a space of silence sufficient for one breath and then the sound of a terrified little-child scream from the dollhouse rooms. Terror! Piercing terror!

Miss Fellowes' head twisted in

the direction of the cry. A child was involved. She had forgotten.

And Hoskins' fist pounded on the railing and he said in a tight voice, trembling with triumph, "*Did it!*"

MISS Fellowes was urged down the short spiral flight of stairs by the hard press of Hoskins' palm between her shoulder blades. He did not speak to her.

The men who had been at the controls were standing about now, smiling, smoking, watching the three as they entered on the main floor. A very soft buzz sounded from the direction of the dollhouse.

Hoskins said to Deveney, "It's perfectly safe to enter Stasis. I've done it a thousand times. There's a queer sensation, but it's momentary and entirely harmless."

He stepped through an open door in mute demonstration and Deveney, smiling stiffly and drawing an audibly deep breath, followed him.

Hoskins said, "Miss Fellowes! Please!" He crooked his forefinger impatiently.

Miss Fellowes nodded and stepped stiffly through. It was as though a ripple went through her, an internal tickle.

But, once inside, all seemed normal. There was the smell of the fresh wood of the dollhouse and of — of soil, somehow.

There was silence now, no voice

at least, but there was the dry shuffling of feet, a scrabbling as of a hand over wood — then a low moan.

"Where is it?" asked Miss Fellowes, in distress. Didn't these fool men care?

It was in the bedroom; at least in the room with the bed in it.

It was standing naked, with its small, dirt-smeared chest heaving raggedly. A bushel of dirt and coarse grass spread over the floor at its bare brown feet. The smell of soil came from it and a touch of something fetid.

Hoskins followed her horrified glance and said with annoyance, "You can't pluck a child cleanly out of time, Miss Fellowes. We had to take some of the surroundings with it for safety. Or would you have preferred to have it arrive here minus a leg or with only half a head?"

"Please!" said Miss Fellowes, in an agony of revulsion. "Are we just to stand here? The poor child is frightened. And it's *filthy*."

She was quite correct. It was smeared with encrusted dirt and grease and had a scratch on its thigh that looked red and sore.

As Hoskins approached, the boy, who seemed to be about three or four years of age, hunched low and backed away rapidly. He lifted his upper lip and snarled in a hissing fashion like a cat. With a rapid gesture, Hoskins seized both the

child's arms and lifted him, writhing and screaming, from the floor.

Miss Fellowes said, "Hold him now. He needs a warm bath first. Have you the equipment? If so, have it brought here, and I'll need to have help in handling him just at first. Then, too, for heaven's sake, have all this trash and filth removed."

She was giving the orders now and she felt perfectly good about that. And because now she was an efficient nurse, rather than a confused spectator, she looked at the child with a clinical eye — and hesitated for one shocked moment. She saw past the dirt and shrieking, past the thrashing of limbs and useless twisting. She saw the boy himself.

It was the ugliest little boy she had ever seen. He was horribly ugly from misshapen head to bandy legs.

She got him cleaned with three men helping her and with others milling about in their efforts to clean the room. She worked in silence and with a sense of outrage, annoyed by the continued strugglings and outcries of the boy and by the undignified drenchings of soapy water to which she was subjected.

Dr. Hoskins had hinted that the child would not be pretty, but that was far from stating that it would be repulsively deformed. And there was a stench that soap

and water was alleviating only little by little.

She had the strong desire to thrust the boy, soaped as he was, into Hoskins' arms and walk out; but there was the pride of profession. She had accepted an assignment, after all. And there would be the look in Hoskins' eyes. A cold look that would read: *Only pretty children, Miss Fellowes?*

He was standing apart from them, watching coolly from a distance with a half-smile on his face when he caught her eyes, as though amused at her outrage.

She decided she would wait a while before quitting. To do so now would only demean her.

WHEN the boy was a bearable pink and smelled only of soap, she felt better anyway. His cries changed to whimpers of exhaustion as he watched warily, eyes moving in quick frightened suspicion from one to another of those in the room. His cleanness accentuated his thin nakedness as he shivered with cold after his bath.

Miss Fellowes said sharply, "Bring me a nightgown for him!"

A nightgown appeared at once. It was as though everything were ready and yet nothing at hand unless she gave orders; as though they were deliberately leaving this in her charge without help, to test her.

The newsman, Deveney, approached and said, "I'll hold him, miss. You won't get it on by yourself."

"Thank you," said Miss Fellowes. And it was a battle indeed, but the nightgown went on, and when the boy made as though to rip it off, she slapped his hand.

The boy reddened, but did not cry. He stared at her and the splayed fingers of one hand moved slowly across the flannel of the nightgown, feeling the strangeness of it.

Miss Fellowes thought desperately: Well, what next?

Everyone seemed in suspended animation waiting for her, even the ugly little boy.

Miss Fellowes said, "Have you provided food? Milk?"

A mobile unit was wheeled in, with its refrigeration compartment containing three quarts of milk, with a warming unit and a supply of fortifications in the form of vitamin drops, copper-cobalt-iron syrup and others she had no time to be concerned with. There was a variety of canned self-warming junior foods.

She used milk, simply milk, to begin with. The radar unit heated the milk to a set temperature in a matter of ten seconds and clicked off, and she put some in a saucer. She had a certainty that the boy wouldn't know how to handle a cup.

Miss Fellowes nodded and said to the boy, "Drink. Drink." She made a gesture as though to raise the milk to her mouth. The boy's eyes followed, but he made no move.

Suddenly, the nurse seized the boy's upper arm in one hand and dipped the other in the milk. She dashed the milk across his lips, so that it dripped down cheeks and receding chin.

For a moment, the child uttered a high-pitched cry; then his tongue moved over his wetted lips. Miss Fellowes stepped back.

The boy approached the saucer, bent toward it, then looked up and behind sharply as though expecting a crouching enemy; bent again and licked at the milk eagerly, like a cat. He did not lift the saucer.

Miss Fellowes allowed a bit of the revulsion she felt show on her face. She couldn't help it.

Deveney caught that, perhaps. He said, "Does the nurse know, Dr. Hoskins?"

"Know what?" demanded Miss Fellowes.

Deveney hesitated, but Hoskins (again that look of detached amusement on his face) said, "Well, tell her."

Deveney addressed Miss Fellowes. "You may not suspect it, miss, but you happen to be the first civilized woman in history ever to be taking care of a Neanderthal youngster."

SHE turned on Hoskins with a kind of controlled ferocity. "You might have told me, Doctor."

"Why? What difference does it make?"

"You said a child."

"Isn't that a child? Have you ever had a puppy or a kitten, Miss Fellowes? Are those closer to the human? If that were a baby chimpanzee, would you be repelled? You're a nurse, Miss Fellowes. Your record states you worked in a maternity ward for three years. Have you ever refused to take care of a deformed infant?"

Miss Fellowes felt her case slipping away. She said, with much less decision, "You might have told me."

"And you would have refused the position? Well, do you refuse it now?" He gazed at her coolly, while Deveney watched from the other side of the room, and the Neanderthal child, having finished the milk and licked the plate, looked up at her with a wet face and wide, longing eyes.

The boy pointed to the milk and suddenly burst out in a short series of sounds repeated over and over; sounds made up of gutturals and elaborate tongue-clickings.

Miss Fellowes said, in surprise, "Why, he talks."

"Of course," said Hoskins. "Homo neanderthalensis is not a truly separate species, but rather

a sub-species of Homo sapiens. Why shouldn't he talk? He's probably asking for more milk."

Automatically, Miss Fellowes reached for the bottle of milk, but Hoskins seized her wrist. "Now, Miss Fellowes, before we go any further, are you staying on the job?"

Miss Fellowes shook free in annoyance. "Won't you feed him if I don't? I'll stay with him — for a while."

She poured the milk.

Hoskins said, "We are going to leave you with the boy, Miss Fellowes. This is the only door to Stasis Section One and it is elaborately locked and guarded. I'll want you to learn the details of the lock which will, of course, be keyed to your fingerprints as they are already keyed to mine. The space overhead—" he looked upward to the open ceilings of the dollhouse—"is also guarded and we will be warned if anything untoward takes place in here."

Miss Fellowes said indignantly, "You mean I'll be under view." She thought suddenly of her own survey of the room interiors from the balcony.

"No, no," said Hoskins seriously, "your privacy will be respected completely. The view will consist of electronic symbolism, which only a computer will deal with. Now you will stay with him tonight, Miss Fellowes, and every

night until further notice. You will be relieved during the day according to some schedule you will find convenient. We will allow you to arrange that."

Miss Fellowes looked about the dollhouse with a puzzled expression. "But why all this, Dr. Hoskins? Is the boy dangerous?"

"It's a matter of energy, Miss Fellowes. He must never be allowed to leave these rooms. Never. Not for an instant. Not for any reason. Is that clear?"

Miss Fellowes raised her chin. "I understand the orders, Dr. Hoskins, and the nursing profession is accustomed to placing its duties ahead of self-preservation."

"Good. You can always signal if you need anyone." And the two men left.

MISS Fellowes turned to the boy. He was watching her and there was still milk in the saucer. Laboriously, she tried to show him how to lift the saucer and place it to his lips. He resisted, but let her touch him without crying out.

Always, his frightened eyes were on her, watching, watching for the one false move. She found herself soothing him, trying to move her hand very slowly toward his hair, letting him see it every inch of the way, see there was no harm in it.

And she succeeded in stroking his hair for an instant.

She said, "I'm going to have to show you how to use the bathroom. Do you think you can learn?"

She spoke quietly, kindly, knowing he would not understand the words but hoping he would respond to the calmness of the tone.

The boy launched into a clicking phrase again.

She said, "May I take your hand?"

She held out hers and the boy looked at it. She left it outstretched and waited. The boy's own hand crept forward toward hers.

"That's right," she said.

It approached within an inch of hers and then the boy's courage failed him. He snatched it back.

"Well," said Miss Fellowes calmly, "we'll try again later. Would you like to sit down here?" She patted the mattress of the bed.

The hours passed slowly and progress was minute. She did not succeed with either bathroom or with the bed. In fact, after the child had given unmistakable signs of sleepiness, he lay down on the bare floor and then, with a quick movement, rolled beneath the bed.

She bent to look at him and his eyes gleamed out at her as he tongue-clicked at her.

"All right," she said, "if you feel safer there, you sleep there."

She closed the door to the bedroom and retired to the cot that

had been placed for her use in the largest room. At her instance, a makeshift canopy had been stretched over it. She thought: Those stupid men will have to place a mirror in this room and a larger chest of drawers and a separate washroom if they expect me to spend nights here.

IT was difficult to sleep. She found herself straining to hear possible sounds in the next room. He couldn't get out, could he? The walls were sheer and impossibly high, but suppose the child could climb and leap like a monkey? Well, Hoskins said there were observational devices watching through the ceiling.

She thought: Can he be dangerous? Physically dangerous?

Surely, Hoskins couldn't have meant that. Surely, he would not have left her here alone, if—

She tried to laugh at herself. He was only a three- or four-year-old child. Still, she had not succeeded in cutting his nails. If he should attack her with nails and teeth while she slept—

Her breath came quickly. Oh, ridiculous, and yet—

She listened with painful attentiveness, and this time she heard the sound.

The boy was crying.

Not shrieking in fear or anger; not yelling or screaming. He was crying softly, and the sound was

the heartbroken sobbing of a lonely, lonely child.

For the first time, Miss Fellowes thought with a pang: Poor thing!

Of course, it was a child; what did the shape of its head matter? It was a child that had been orphaned before. Not only its mother and father were gone, but all its species. Snatched callously out of time, it was now the only creature of its kind in the world. The last. The only.

She felt pity for it strengthen and with it shame at her own callousness. Tucking her own nightgown carefully about her calves (incongruously, she thought: Tomorrow I'll have to bring in a bathrobe), she got out of bed and went into the boy's room.

"Little boy," she called in a whisper. "Little boy."

She was about to reach under the bed, but she thought of a possible bite and did not. Instead, she turned on the night light and moved the bed.

He was huddled in the corner, knees up against his chin, looking up at her with blurred and apprehensive eyes.

In the dim light, she was less aware of his repulsiveness.

"Poor boy," she said, "poor boy." She felt him stiffen as she stroked his hair, then relax. "Poor boy. May I hold you?"

She sat down on the floor next

to him and slowly and rhythmically stroked his hair, his cheek, his arm. Softly, she began to sing a slow and gentle song.

He lifted his head at that, staring at her mouth in the dimness, as though wondering at the sound.

She maneuvered him closer while he listened to her. Slowly, she pressed gently against the side of his head, until it rested on her shoulder. She put her arm under his thighs and with a smooth and unhurried motion lifted him into her lap.

She continued singing, the same simple verse over and over, while she rocked back and forth, back and forth.

He stopped crying and after a while the smooth burr of his breathing showed he was asleep.

With infinite care, she pushed his bed back against the wall and laid him down on it. She covered him and stared down. His face looked so peaceful and little-boy as he slept. It didn't matter so much that it was so ugly. Really.

She began to tiptoe out, then thought: What if he wakes up?

She came back, battled irresolutely with herself, then sighed and slowly got into bed with the child.

It was too small for her. She was cramped and made uneasy by the open ceiling, but the child's hand crept into hers and, somehow, she fell asleep in that position.

SHE awoke with a start and a wild impulse to scream. The latter she just managed to suppress into a gurgle. The boy was looking at her, wide-eyed. It took her a long moment to remember getting into bed with him and now, slowly, without unfixing her eyes from his, she stretched out one leg carefully and let it touch the floor, then the other one.

She cast a quick, uncomfortable glance toward the open ceiling, then tensed her muscles for quick disengagement.

But at that moment, the boy's stubby fingers reached out and touched her lips. He said something.

She shrank at the touch. He was terribly ugly in the light of day.

The boy spoke again. He opened his own mouth and gestured with his hand as though something were coming out.

Miss Fellowes guessed at the meaning and said tremulously, "Do you want me to sing?"

The boy said nothing but stared at her mouth.

In a voice slightly off-key with tension, Miss Fellowes began the little song she had sung the night before. The ugly little boy smiled. He swayed clumsily in rough time to the music and made a little gurgly sound that might have been the beginnings of a laugh.

Miss Fellowes sighed inwardly. Music hath charms to soothe the

savage breast. It might help—

She said, "You wait. Let me get myself fixed up. It will just take a minute. Then I'll make breakfast for you."

She worked rapidly, conscious of the lack of ceiling at all times. The boy remained in bed, watching her when she was in view. She smiled at him at those times and waved. At the end, he waved back, and she was charmed by that.

Finally, she said, "Would you like oatmeal with milk?" It took a moment to prepare, and then she beckoned to him.

Whether he understood the gesture or followed the aroma, Miss Fellowes did not know, but he got out of bed.

She tried to show him how to use a spoon, but he shrank away from it in fright. (Time enough, she thought.) She compromised on insisting that he lift the bowl in his hands. He did it clumsily enough and it was incredibly messy, but most of the food did get into him.

She tried the drinking milk in a glass this time, and the little boy whined when he found the opening too small for him to get his face into. She held his hand, forcing it around the glass, making him tip it, forcing his mouth to the rim.

Again a mess but again most went into him, and she was used to messes.

The washroom, to her surprise and relief, was a less frustrating matter. He understood what it was she expected him to do.

She found herself patting his head, saying, "Good boy. Smart boy."

And to Miss Fellowes' exceeding pleasure, the boy smiled at that. She thought: When he smiles, he's quite bearable. Really.

LATER in the day, the gentlemen of the Telepress arrived.

She held the boy in her arms and he clung to her wildly while, across the open door, they set cameras to work. The commotion frightened the boy and he began to cry, but it was ten minutes before Miss Fellowes was allowed to retreat and put him in the next room.

She emerged again, flushed with indignation, walked out of the apartment (for the first time in eighteen hours) and closed the door behind her. "I think you've had enough. It will take me a while to quiet him. Go away."

"Sure, sure," said the gentleman from the *Times-Herald*. "But is that really a Neanderthal or is this some kind of gag?"

"I assure you," said Hoskins' voice suddenly, from the background, "that this no gag. The child is authentic Homo neanderthalensis."

"Is it a boy or a girl?"

"Boy," said Miss Fellowes briefly.

"Apeboy," said the gentleman from the *News*. "That's what we've got here. Apeboy. How does he act, Nurse?"

"He acts exactly like a little boy," snapped Miss Fellowes, annoyed into the defensive, "and he is not an apeboy. His name is — is Timothy, Timmie — and he is perfectly normal in his behavior."

She had chosen the name Timothy at angry random. It was the first time a name for him had occurred to her.

"Timmie the Apeboy," said the gentleman from the *News* and, as it turned out, Timmie the Apeboy was the name under which the child became known to the world.

The gentleman from the *Globe* turned to Hoskins and said, "Doc, what do you expect to do with the apeboy?"

Hoskins shrugged. "My original plan was completed when I proved it possible to bring him here. However, the anthropologists will be very interested, I imagine, and the physiologists. We have here, after all, a creature which is at the edge of being human. We should learn a great deal about ourselves and our ancestry from him."

"How long will you keep him?"

"Until such time as we need the space more than we need him. A fairly long while, perhaps."

The gentleman from the *News*

said, "Can you bring it out into the open so we can set up sub-etheric equipment and put on a real show?"

"I'm sorry, but the child cannot be removed from Stasis."

"Exactly what is Stasis?"

"Ah." Hoskins permitted himself one of his short smiles. "That would take a great deal of explanation, gentlemen. In Stasis, time as we know it doesn't exist. Those rooms are inside an invisible bubble that is not exactly part of our universe. That is why the child could be plucked out of time as it was."

"Well, wait now," said the gentleman from the *News* discontentedly, "what are you giving us? The nurse goes into the room and out of it."

"And so can any of you," said Hoskins, matter-of-factly. "You would be moving parallel to the lines of temporal force and no great energy gain or loss would be involved. The child, however, was taken from the far past. It moved across the lines and gained temporal potential. To move it into the Universe and into our own time would absorb enough energy to burn out every line in the place and probably blank out all power in the city of Washington."

The newsmen were writing down sentences busily as Hoskins spoke them. They did not understand and they were sure their

readers would not, but it sounded scientific and that was what counted.

The gentleman from the *Times-Herald* said, "Would you be available for an all-circuit interview tonight?"

"I think so," said Hoskins at once, and they all moved off.

Miss Fellowes stared after them. She understood all this about Stasis and temporal force as little as the newsmen, but she managed to get this much:

Timmie's imprisonment (she found herself thinking of the little boy as Timmie) was a real one, and not one imposed by the arbitrary fiat of Hoskins. Apparently it was impossible to let him out of Stasis at all, ever.

She was suddenly aware of his crying and she hastened in to console him.

MISS Fellowes did not have a chance to see Hoskins on the all-circuit hookup, and though his interview was beamed to every part of the world and even to the outpost on the Moon, it did not penetrate the apartment in which Miss Fellowes and the ugly little boy lived.

But he was down the next morning, radiant and joyful.

Miss Fellowes said, "Did the interview go well?"

"Extremely. And how is — Timmie?"

Miss Fellowes found herself pleased at his use of the name. "Doing very well. Now come out here, Timmie. The nice gentleman will not hurt you."

But Timmie stayed in the other room, with a lock of his matted hair showing behind the barrier of the door and, occasionally, the corner of an eye.

"Actually," said Miss Fellowes, "he is settling down amazingly. He is quite intelligent."

"Are you surprised?"

She hesitated just a moment, then said, "Yes, I am. I suppose I thought he was an apeboy."

"Well, apeboy or not, he's done a great deal for us. He's put Stasis, Inc., on the map. We're in, Miss Fellowes — we're in." It was as though he had to express his triumph to someone, even if only to Miss Fellowes.

"Oh?" She let him talk.

He put his hands in his pockets and said, "We've been working on a shoestring for ten years, scrounging funds a penny at a time wherever we could. We had to shoot the works on one big show. It was everything or nothing. And when I say the works, I mean it. This attempt to bring in a Neanderthal took every cent we could borrow or steal, and some of it was stolen — funds for other projects, used for this one without permission. If that experiment hadn't succeeded, I'd have been through."

Miss Fellowes said abruptly, "Is that why there are no ceilings?"

"Eh?" Hoskins looked up.

"Was there no money for ceilings?"

"Oh. Well, that wasn't the only reason. We didn't know in advance exactly how old the Neanderthal might prove to be, except that it was a child. We can detect only dimly in time, and it was possible we might have had to deal with him from a distance, like a caged animal."

"But since that hasn't turned out to be so, I suppose you can build a ceiling now."

"Now, yes. We have plenty of money now. Funds have been promised from every source. This is all wonderful, Miss Fellowes." His broad face gleamed with a smile that lasted, and when he left, even the back of his head seemed to be smiling.

Miss Fellowes thought: He's quite a nice man when he's off-guard and forgets about being scientific.

She wondered for an idle moment if he was married, then dismissed the thought in self-embarrassment.

"Timmie," she called. "Time to eat, Timmie."

IN the months that passed, Miss Fellowes felt herself grow to be an integral part of Stasis, Inc. She was given a small office of her

own with her name on the door, an office close to the dollhouse (as she never stopped calling Timmie's Stasis bubble). She was given a substantial raise. The dollhouse was covered by a ceiling; its furnishings were elaborated and improved; a second washroom was added — and, even so, she gained an apartment of her own on the institute grounds and, on occasion, did not stay with Timmie during the night. An intercom was set up between the dollhouse and her apartment and Timmie learned how to use it.

Miss Fellowes got used to Timmie. She even grew less conscious of his ugliness. One day she found herself staring at an ordinary boy in the street and finding something bulgy and unattractive in his high domed forehead and jutting chin. She had to shake herself to break the spell.

It was more pleasant to grow used to Hoskins' occasional visits. It was obvious he welcomed escape from his increasingly harried role as head of Stasis, Inc., and that he took a sentimental interest in the child who had started it all, but it seemed to Miss Fellowes that he also enjoyed talking to her.

(She had learned some facts about Hoskins, too. He had invented the method of analyzing the reflection of the past-penetrating mesonic beam; he had invented

the method of establishing Stasis; his coldness was only an effort to hide a kindly nature; and, oh yes, he was married.)

What Miss Fellowes could *not* get used to was the fact that she was engaged in a scientific experiment. Despite all she could do, she found herself getting personally involved to the point of quarreling with the physiologists.

On one occasion, Hoskins came down and found her in the midst of a hot urge to kill. They had no right; they had no *right* — even if he was a Neanderthal, he still wasn't an animal!

She was glaring after them in a blind fury; glaring out the open door and listening to Timmie's sobbing, when she noticed Hoskins standing before her. He might have been there for minutes.

He said, "May I come in?"

She nodded curtly, then hurried to Timmie, who clung to her, curling his little bandy legs — still thin, so thin — about her.

Hoskins watched, then said gravely, "He seems quite unhappy."

Miss Fellowes said, "I don't blame him. They're at him every day now with their blood samples and their probings. They keep him on synthetic diets that I wouldn't feed a pig."

"It's the sort of thing they can't try on a human, you know."

"And they can't try it on Tim-

mie, either. Dr. Hoskins, I insist! You told me it was Timmie's coming that put Stasis, Inc., on the map. If you have any gratitude for that at all, you've got to keep them away from the poor thing at least until he's old enough to understand a little more. After he's had a bad session with them, he has nightmares; he can't sleep. Now I warn you—" she reached a sudden peak of rage—"I'm not letting them in here any more!"

She realized that she had screamed that, but she couldn't help it.

She said, more quietly, "I know he's a Neanderthal, but there's a great deal we don't appreciate about Neanderthals. I've read up on them. They had a culture of their own. Some of the greatest human inventions arose in Neanderthal times. The domestication of animals, for instance; the wheel; various techniques in grinding stone. They even had spiritual yearnings—they buried their dead and buried possessions with the body, showing they believed in a life after death. It amounts to the fact that they invented religion. Doesn't that mean Timmie has a right to human treatment?"

SHE patted the little boy gently on his bottom and sent him off into his playroom. As the door was opened, Hoskins smiled briefly at the display of toys.

Miss Fellowes said defensively, "The poor child deserves his toys. It's all he has and he earns them with what he goes through."

"No, no. No objections, I assure you. I was just thinking how you've changed since the first day, when you were so angry because I had foisted a Neanderthal on you."

Miss Fellowes said in a low voice, "I suppose I didn't—" and faded off.

Hoskins changed the subject. "How old would you say he is, Miss Fellowes?"

"I can't say, since we don't know how Neanderthals develop. In size, he'd be about three, but Neanderthals are smaller generally, and with all the tampering that's done to him, he probably isn't growing. The way he's learning English, though, I'd say he was well over four."

"Really? I haven't noticed anything about learning English in the reports."

"He won't speak to anyone but me. For now, anyway. He's terribly afraid of others, and no wonder. But he can ask for any article of food; he can indicate any need, practically; and he understands almost anything I say. Of course—" she watched him shrewdly, trying to estimate if this were the time—"his development may not continue."

"Why not?"

"Any child needs stimulation

and this one lives a life of solitary confinement. I do what I can, but I'm not with him all the time and I'm not all he needs. What I mean, Dr. Hoskins, is that he needs another boy to play with."

Hoskins nodded slowly. "Unfortunately, there's only one of him, isn't there? Poor child."

Miss Fellowes warmed to him at once. "You do like Timmie, don't you?" It was so nice to have someone else feel like that.

"Oh, yes," said Hoskins, and with his guard down, she could see the weariness in his eyes.

Miss Fellowes dropped her plans to push the matter at once. She said, with real concern, "You look worn out, Dr. Hoskins."

"Do I, Miss Fellowes? I'll have to practice looking more lifelike then."

"I suppose Stasis, Inc., is very busy and that that keeps you on the go."

Hoskins shrugged. "You suppose right. It's a matter of animal, vegetable and mineral in equal parts, Miss Fellowes. But then I suppose you haven't ever seen our displays."

"Actually, I haven't. But it's not because I'm not interested. It's just that I've been so busy myself."

"Well, you're not all that busy right now," he said with impulsive decision. "I'll call for you tomorrow at eleven and give you a personal tour. How's that?"

She smiled happily. "I'd love it."

He nodded and smiled in his turn and left.

Miss Fellowes hummed at intervals for the rest of the day. Really — to think so was ridiculous, of course — but really, it was almost like — like making a date.

HE was right on time the next day, smiling and pleasant. She had replaced her nurse's uniform with a dress. One of conservative cut, to be sure, but she hadn't felt so feminine in years.

He complimented her on her appearance with staid formality and she accepted with equally formal grace. It was really a perfect prelude, she thought. And then the additional thought came: Prelude to what?

She shut that off by hastening to say good-by to Timmie and to assure him she would be back soon. She made sure he knew all about what was for lunch and where it was.

Hoskins took her into the new wing, into which she had never yet gone. It still had the odor of newness about it and the sound of construction, softly heard, was indication enough that it was still being extended.

"Animal, vegetable and mineral," said Hoskins, as he had the day before. "Animal right there; our most spectacular exhibits."

The space was divided into

many rooms, each a separate Stasis bubble. Hoskins brought her to the viewglass of one and she looked in. What she saw impressed her first as a scaled, tailed chicken. Skittering on two thin legs, it ran from wall to wall, with its delicate birdlike head, surmounted by a bony keel like the comb of a rooster, looking this way and that. The paws on its small forelimbs clenched and unclenched constantly.

Hoskins said, "It's our dinosaur. We've had it for months. I don't know when we'll be able to let go of it."

"Dinosaur?"

"Did you expect a giant?"

"One does, I suppose, though I know some of them are small."

"A small one is all we aimed for, believe me. Generally, it's under investigation, but this seems to be an open hour. Some interesting things have been discovered. For instance, it is not entirely cold-blooded. It has an imperfect method of maintaining internal temperatures higher than that of its environment. Unfortunately, it's a male. Ever since we brought it in, we've been trying to get a fix on another that may be female, but we've had no luck yet."

"Why female?"

He looked at her quizzically. "So that we might have a fighting chance to obtain fertile eggs, and baby dinosaurs."

"Of course."

He led her to the trilobite section. "That's Professor Dwayne of Washington University," he said. "He's a nuclear chemist. If I recall correctly, he's taking an isotope ratio on the oxygen of the water."

"Why?"

"It's primeval water; at least half a billion years old. The isotope ratio gives the temperature of the ocean at that time. He himself happens to ignore the trilobites, but others are chiefly concerned in dissecting them. They're the lucky ones, because all they need are scalpels and microscopes. Dwayne has to set up a mass spectrograph each time he conducts an experiment."

"Why's that? Can't he—"

"No, he can't. He can't take anything out of the room."

THERE were samples of primordial plant life, too, and chunks of rock formations. Those were the vegetable and mineral. And every specimen had its investigator. It was like a museum; a museum brought to life and serving as a super-active center of research.

"And you have to supervise all of this, Dr. Hoskins?"

"Only indirectly, Miss Fellowes. I have subordinates, thank heaven. My own interest is entirely in the theoretical aspects of the matter:

the nature of time, the technique of mesonic intertemporal detection and so on. I would exchange all this for a method of detecting objects closer in time than ten thousand years ago. If we could get into historical times—"

He was interrupted by a commotion at one of the distant booths, a thin voice raised querulously. He frowned, muttered hastily, "Excuse me," and hastened off.

Miss Fellowes followed as best she could without actually running.

An elderly man, thinly bearded and red-faced, was saying, "I had vital aspects of my investigations to complete. Don't you understand that?"

A uniformed technician with the interwoven SI monogram (for Stasis, Inc.) on his lab coat said, "Dr. Hoskins, it was arranged with Professor Ademewski at the beginning that the specimen could remain here only two weeks."

"I did not know then how long my investigations would take. I'm not a prophet," said Ademewski heatedly.

Dr. Hoskins said, "You understand, Professor, that we have limited space; we must keep specimens rotating. That piece of chalcopyrite must go back; there are men waiting for the next specimen."

"Why can't I have it for myself

then? Let me take it out of there."

"You know you can't have it."

"A piece of chalcopyrite; a miserable five-kilogram piece? Why not?"

"We can't afford the energy expense!" said Hoskins bluntly. "You know that."

"I know it's what you say would happen," Ademewski retorted.

"Meaning we haven't tested with anything this large? Micro-tests have given us more than enough evidence—"

The technician interrupted. "The point is, Dr. Hoskins, that he tried to remove the rock against the rules and I almost punctured Stasis while he was in there, not knowing he was inside."

There was a short silence and Dr. Hoskins turned on the investigator with a cold formality. "Is that so, Professor?"

Professor Ademewski coughed. "I saw no harm—"

Hoskins reached up to a hand-pull dangling just within reach, outside the specimen room in question. He pulled it.

Miss Fellowes, who had been peering in, looking at the totally undistinguished sample of rock that had caused the dispute, drew in her breath sharply as its existence flickered out. The room was empty.

Hoskins said, "Professor, your permit to investigate matters in Stasis is permanently voided."

"But wait—"

"I am sorry. You have violated one of the stringent rules."

"I will appeal to the International Association—"

"Appeal away. In a case like this, you will find I can't be overruled."

He turned away deliberately, leaving the professor still protesting, and said to Miss Fellowes, his face still white with anger, "Would you care to have lunch with me, Miss Fellowes?"

HE took her into the small administration alcove of the cafeteria. He greeted others and introduced Miss Fellowes with complete ease, although she herself felt painfully self-conscious.

What must they think, she thought, and tried desperately to appear businesslike.

She said, "Do you have that kind of trouble often, Dr. Hoskins? I mean like that you just had with the professor?" She took her fork in hand and began eating.

"No," said Hoskins forcefully. "That was the first time. Of course I'm always having to argue men out of removing specimens, but this is the first time one actually tried to *do* it."

"I remember you once talked about the energy it would consume."

"That's right. Of course, we've tried to take it into account. Ac-

cidents will happen and so we've got special power sources designed to stand the drain of accidental removal from Stasis, but that doesn't mean we want to see a year's supply of energy gone in half a second — or can afford to, without having our plans of expansion delayed for years. Besides, imagine the professor's being in the room while Stasis was about to be punctured!"

"What would have happened to him?"

"We've experimented with inanimate objects and with mice and they've all disappeared. Presumably, they've traveled back in time; carried along, so to speak, by the pull of the object simultaneously snapping back into its natural time. For that reason, we have to anchor objects within Stasis that we don't want to move, and that's a complicated procedure. The professor would not have been anchored and he would have gone back to the Pliocene at the moment when we abstracted the rock — plus, of course, the two weeks it had remained here in the present."

Miss Fellowes said, "Couldn't you get him back? The way you got the rock in the first place?"

"No, because once an object is returned, the original fix is lost unless we deliberately plan to retain it, and there was no reason to do that in this case. There never

is. Finding the professor again would mean relocating a specific fix, which would be like dropping a line into the ocean for the purpose of catching a particular fish. My God, when I think of the precautions we take to prevent accidents, it makes me mad!"

"Precautions?" Miss Fellowes repeated. "Like what?"

"We have every individual Stasis unit set up with its own puncturing device. We have to, since each unit has its separate fix and must be collapsible independently. The point is, though, none of the puncturing devices is ever activated until the last minute. And then we deliberately make activation impossible except by the pull of a rope carefully led outside the Stasis. The pull is a gross mechanical motion that requires a strong effort — not something that could be done accidentally."

MISS Fellowes said, "But doesn't it — change history to move something in and out of time?"

Hoskins shrugged. "Theoretically, yes; actually, except in unusual cases, no. We move objects out of Stasis all the time. Air molecules. Bacteria. Dust. About ten per cent of our energy consumption goes to make up micro-losses of that nature. But moving even large objects in time sets up changes that damp out. Take

that chalcopyrite from the Pliocene. Because of its absence for two weeks, some insect didn't find the shelter it might have found and is killed. That could initiate a whole series of changes, but the mathematics of Stasis indicates that this is a converging series. The amount of change diminishes with time and then things are as before."

"You mean reality heals itself?"

"In a manner of speaking. Abstract a human from time or send one back, and you make a larger wound. If the individual is an ordinary one, that wound still heals itself. Of course, there are a great many people who write to us each day and want to bring Abraham Lincoln into the present, or Mohammed, or Lenin. *That* can't be done, of course. Even if we could find them, the change in reality in moving one of the history-molders would be too great to be healed. There are ways of calculating when a change is likely to be too great and we avoid even approaching that limit."

Miss Fellowes said, "Then Timmie—"

"No, he presents no problem in that direction. Reality is safe. But—" He gave her a quick, sharp glance, then went on, "But never mind. Yesterday, you said Timmie needed companionship."

"Yes." Miss Fellowes smiled her delight. "I didn't think you paid that any attention."

"Of course I did. I'm fond of the child. I appreciate your feelings for him and I was concerned enough to want to explain to you. Now I have; you've seen what we do; you've gotten some insight into the difficulties involved; so you know why, with the best will in the world, we can't supply companionship for Timmie."

"You can't?" said Miss Fellowes, with sudden dismay.

"But I've just explained. We couldn't possibly expect to find another Neanderthal his age without incredible luck, and if we could, we wouldn't. We're learning all we need to know about Neanderthals from the study of Timmie. There's no way to justify the expense of bringing —"

Miss Fellowes put down her spoon and said energetically, "But Dr. Hoskins, that is not at all what I meant. I don't want you to bring another Neanderthal into the present. I know that's an impossible request. But it isn't impossible to bring another child to play with Timmie."

Hoskins stared at her in concern. "A *human* child?"

"Another child," said Miss Fellowes, completely hostile now.

"I couldn't dream of such a thing."

"Why couldn't you? What is wrong with the notion? You pulled that child out of time and made him a lonely little prisoner. Don't you owe him something? Dr. Hoskins, if there is any man who, in this world, is that child's father in every sense but the biological, it is you. Why can't you do this little thing for him?"

Hoskins said, "His *father*?" He rose, somewhat unsteadily, to his feet. "Miss Fellowes, I think I'll take you back now."

They returned to the dollhouse in a freezing silence that neither broke.

IT was a long time after that before she saw Hoskins again, except for an occasional glimpse in passing. She was sorry about that at times; then, at other times, when Timmie was more than usually woebegone or when he spent silent hours at the window with its prospect of little more than nothing, she thought fiercely: Stupid man.

Timmie's speech grew better and more precise each day. It never entirely lost a certain soft slurriness that Miss Fellowes found rather endearing. In times of excitement, he fell back into tongue-clicking, but those times were becoming fewer. He must be forgetting the days before he came into the present — except for dreams.

As he grew older, the physiologists grew less interested and the psychologists more so. Miss Fellowes was not sure that she did not like the new group even less than the first. The needles were gone, the injections and withdrawals of fluid, the special diets. But now Timmie was made to overcome barriers to reach food and water. He had to lift panels, move bars, reach for cords. And the mild electric shocks made him cry and drove Miss Fellowes into outraged protests.

She did not wish to appeal to Hoskins; she did not wish to have to go to him, for whatever she thought of him, she thought of his face over the luncheon table that last time. Her eyes moistened and she thought: Stupid, *stupid* man.

And then one day Hoskins' voice sounded unexpectedly, calling into the dollhouse, "Miss Fellowes."

She came out coldly, smoothing her nurse's uniform, then stopped in confusion at finding herself in the presence of a pale woman, slender and of middle height. The woman's fair hair and complexion gave her an appearance of fragility. Standing behind her and clutching at her skirt was a round-faced, large-eyed child of four.

Hoskins said, "Dear, this is Miss Fellowes, the nurse in

charge of the boy. Miss Fellowes, this is my wife."

(Was this his wife? She was not as Miss Fellowes had imagined her to be. But then, why not? A man like Hoskins would choose a weak thing to be his foil. If that was what he wanted—)

She forced a matter-of-fact greeting. "Good afternoon, Mrs. Hoskins. Is this your — your little boy?"

(That was a surprise. She had thought of Hoskins as a husband, but not as a father, except, of course — She suddenly caught Hoskins' grave eyes and flushed.)

Hoskins said, "Yes, this is my boy Jerry. Say hello to Miss Fellowes, Jerry."

(Had he stressed the word "this" just a bit? Was he saying *this* was his son and not —)

Jerry receded a bit further into the folds of the maternal skirt and muttered his hello. Mrs. Hoskins' eyes were searching over Miss Fellowes' shoulders, peering into the room.

Hoskins said, "Well, let's go in. Come, dear. There's a trifling discomfort at the threshold, but it passes."

Miss Fellowes said, "Do you want Jerry to come in, too?"

"Of course. He is to be Timmie's playmate. You said Timmie needed a playmate. Or have you forgotten?"

"But—" She looked at him with a colossal, surprised wonder. "Your boy?"

He said peevishly, "Well, whose boy, then? Isn't this what you want? Come in, dear. Come on in."

MRS. Hoskins lifted Jerry into her arms with a distinct effort and hesitantly stepped over the threshold. Jerry squirmed as she did so, disliking the sensation.

Mrs. Hoskins said in a thin voice, "Is the creature here? I don't see him."

Miss Fellowes called, "Timmie. Come out."

Timmie peered around the edge of the door, staring up at the little boy who was visiting him. The muscles in Mrs. Hoskins' arms tensed visibly.

She said to her husband, "Gerald, are you sure it's safe?"

Miss Fellowes said at once, "If you mean is Timmie safe, why, of course he is. He's a gentle little boy."

"But he's a sa—savage."

(The apeboy stories in the newspapers!) Miss Fellowes said emphatically, "He is not a savage. He is just as quiet and reasonable as you can possibly expect a five-and-a-half-year-old to be. It is very generous of you, Mrs. Hoskins, to agree to allow your boy to play with Timmie, but please have no fears about it."

Mrs. Hoskins said with mild heat, "I'm not sure that I agree."

"We've had it out, dear," said Hoskins. "Let's not bring up the matter for new argument. Put Jerry down."

Mrs. Hoskins did so and the boy backed against her, staring at the pair of eyes which were staring back at him from the next room.

"Come here, Timmie," said Miss Fellowes. "Don't be afraid."

Slowly, Timmie stepped into the room. Hoskins bent to disengage Jerry's fingers from his mother's skirt. "Step back, dear. Give the children a chance."

The youngsters faced one another. If they were the same age, Jerry was nevertheless half a head taller, and in the presence of his straightness and his high-held, well-proportioned head, Timmie's grotesqueries were suddenly almost as pronounced as they had been in the first days.

Miss Fellowes' lips quivered.

It was the little Neanderthal who spoke first, in childish treble. "What's your name?" And Timmie thrust his face suddenly forward as though to inspect the other's features more closely.

Startled, Jerry responded with a vigorous shove that sent Timmie tumbling. Both began crying loudly and Mrs. Hoskins snatched up her child, while Miss Fellowes, flushed with silent anger, lifted

Timmie and comforted him.

Mrs. Hoskins said, "They just instinctively dislike each other."

"No more instinctively," said her husband wearily, "than any two children dislike each other. Now put Jerry down and let him get used to the situation. In fact, we had better leave. Miss Fellowes can bring Jerry to my office after a while and I'll have him taken home."

THE two children spent the next hour very aware of each other. Jerry cried for his mother, struck out at Miss Fellowes, and finally allowed himself to be comforted with a lollipop. Timmie sucked at another, and at the end of an hour, Miss Fellowes had them playing with the same set of blocks, though at opposite ends of the room.

She found herself almost maudlinly grateful to Hoskins when she brought Jerry to him.

She searched for ways to thank him, but his very formality was a rebuff. Perhaps he could not forgive her for making him feel like a cruel father. Perhaps the bringing of his own child was an attempt, after all, to prove himself both a kind father to Timmie and, also, no father at all. Both at the same time!

So all she could say was, "Thank you. Thank you very much."



And all he could say was, "It's all right. Don't mention it."

It became a settled routine. Twice a week, Jerry was brought in for an hour's play, later extended to two hours' play. The children learned each other's names and ways and played together.

And yet, after the first rush of gratitude, Miss Fellowes found herself disliking Jerry. He was larger and heavier and in all things dominant, forcing Timmie into a completely secondary role. All that reconciled her to the situation was the fact that, despite difficulties, Timmie looked forward with more and more delight to the periodic appearances of his playmate.

It was all he had, she mourned to herself.

And once, as she watched them, she thought: Hoskins' two children, one by his wife and one by Stasis.

While she herself —

Heavens, she thought, putting her fists to her temples and feeling ashamed: I'm jealous!

"MISS Fellowes," said Timmie (carefully, she had never allowed him to call her anything else), "when will I go to school?"

She looked down at those eager brown eyes turned up to hers and passed her hand softly through

his thick, curly hair. It was the most disheveled portion of his appearance, for she cut his hair herself while he sat restlessly under the scissors. She did not ask for professional help, for the very clumsiness of the cut served to mask the retreating forepart of the skull and the bulging hinder part.

She said, "Where did you hear about school?"

"Jerry goes to school. Kindergarten. There are lots of places he goes. Outside. When can I go outside, Miss Fellowes?"

A small pain centered in Miss Fellowes' heart. Of course, she saw, there would be no way of avoiding the inevitability of Timmie's hearing more and more of the outer world he could never enter.

She said, with an attempt at gaiety, "Why, whatever would you do in kindergarten, Timmie?"

"Jerry says they play games; they have picture tapes. He says there are lots of children. He says —" A thought, then a triumphant upholding of both small hands with the fingers splayed apart. "He says this many."

Miss Fellowes said, "Would you like picture tapes? I can get you picture tapes. Very nice ones. And music tapes, too."

So Timmie was temporarily comforted.

He pored over the picture tapes

in Jerry's absence and Miss Fellowes read to him out of ordinary books by the hours.

There was so much to explain in even the simplest story, so much that was outside the perspective of his three rooms. Timmie took to having his dreams more often, now that the outside was being introduced to him.

They were always the same, about the outside. He tried haltingly to describe them to Miss Fellowes. In his dreams, he was outside, an empty outside, but very large, with children and queer indescribable objects half-digested in his thoughts out of bookish descriptions half-understood, or out of distant Neanderthal memories half-recalled.

But the children and objects ignored him, and though he was in the world, he was never part of it, but was as alone as though he were in his own room — and he would wake up crying.

Miss Fellowes tried to laugh at the dreams, but there were nights in her own apartment when she cried, too.

ONE day, as Miss Fellowes read, Timmie put his hand under her chin and lifted gently so that her eyes left the book and met his.

He said, "How do you know what to say, Miss Fellowes?"

"You see these marks? They

tell me what to say. These marks make words."

He stared at them long and curiously, taking the book out of her hands. "Some of these marks are the same."

She laughed with pleasure at this sign of his shrewdness and said, "So they are. Would you like to have me show you how to make the marks?"

"All right. That would be a nice game."

It had not occurred to her that he could learn to read — up to the very moment that he read a book to her.

Then the enormity of what had been done struck her. Timmie sat in her lap, following word by word the printing in a child's book, reading to her. *He was reading to her!*

She struggled to her feet in amazement and said, "Now, Timmie, I'll be back later. I want to see Dr. Hoskins."

Excited nearly to frenzy, it seemed to her she might have an answer to Timmie's unhappiness. If Timmie could not leave to enter the world, the world must be brought into those three rooms to Timmie — the whole world in books and film and sound. He must be educated to his full capacity. That much the world owed him.

SHE found Hoskins in a mood that was oddly analogous to her own, a kind of triumph and

glory. His offices were unusually busy and, for a moment, she thought she would not get to see him, as she stood abashed in the anteroom.

But he saw her and a smile spread over his broad face. "Miss Fellowes, come here." He spoke rapidly into the intercom, then shut it off. "Have you heard? No, of course, you couldn't have. We've done it. We've actually done it. We have intertemporal detection at close range!"

"You mean —" she tried to detach her thought from her own good news for a moment — "that you can get a person from historical times into the present?"

"That's just what I mean! We have a fix on a 14th-century individual right now. Imagine. *Imagine!* If you could only know how glad I'll be to shift from the eternal concentration on the Mesozoic, replace the paleontologists with the historians — But there's something you wish to say to me, eh? Well, go ahead; go ahead. You find me in a good mood. Anything you want, you can have."

Miss Fellowes smiled. "I'm glad. Because I wonder if we might not establish a system of instruction for Timmie."

"Instruction? In what?"

"Well, in everything. A school. So that he might learn."

"But can he learn?"

"Certainly, he is learning. He

can read. I've taught him how myself."

Hoskins sat there, seeming suddenly depressed. "I don't know, Miss Fellowes."

"You just said that anything I wanted —"

"I know and I should not have. You see, Miss Fellowes, I'm sure you must realize that we cannot maintain the Timmie experiment forever."

She stared at him with sudden horror, not really understanding what he had said. How did he mean "cannot maintain"? With an agonizing flash of recollection, she recalled Professor Adamewski and his mineral specimen that was taken away after two weeks. She said, "But you're talking about a boy. Not about a rock —"

Hoskins said uneasily, "Even a boy can't be given undue importance, Miss Fellowes. Now that we expect individuals out of historical time, we will need Stasis space, all we can get."

She still didn't grasp it. "But you can't. Timmie —"

"Now, Miss Fellowes, please don't upset yourself. Timmie won't go right away; perhaps not for months. Meanwhile, we'll do what we can."

She was still staring at him.

"Let me get you something, Miss Fellowes."

"No," she whispered. "I don't need anything." She arose in a

kind of nightmare and left.

Timmie, she thought, you will not die. You will *not* die.

IT was all very well to hold tensely to the thought that Timmie must not die, but how was that to be arranged? In the first weeks, Miss Fellowes clung only to the hope that the attempt to bring forward a man from the 14th century would fail completely. Hoskins' theories might be wrong or his practice defective. Then things could go on as before.

Certainly, that was not the hope of the rest of the world and, irrationally, Miss Fellowes hated the world for it. "Project Middle Ages" reached a climax of white-hot publicity. The press and the public had hungered for something like this. Stasis, Inc., had lacked the necessary sensation for a long time now. A new rock or another ancient fish failed to stir them. But this did.

A historical human, an adult speaking a known language, someone who could open a new page of history to the scholar.

Zero hour was coming and now it was not a question of three on-lookers from a balcony. This time there would be a worldwide audience. This time the technicians of Stasis, Inc., would play their role before nearly all of mankind.

Miss Fellowes was herself all but savage with waiting. When

young Jerry Hoskins showed up for his scheduled playtime with Timmie, she scarcely recognized him. He was not the one she was waiting for.

(The secretary who brought him left hurriedly after the barest nod for Miss Fellowes. She was rushing for a good place from which to watch the climax of Project Middle Ages. And so ought Miss Fellowes with far better reason, she thought bitterly, if only that stupid girl would arrive.)

Jerry Hoskins sidled toward her, embarrassed. "Miss Fellowes?" He took the reproduction of a news strip out of his pocket.

"Yes? What is it, Jerry?"

"Is this a picture of Timmie?"

Miss Fellowes stared at him, then snatched the strip from Jerry's hand. The excitement of Project Middle Ages had brought about a pale revival of interest in Timmie on the part of the press.

Jerry watched her narrowly, then said, "It says Timmie is an apeboy. What does that mean?"

Miss Fellowes caught the youngster's wrist and repressed the impulse to shake him. "Never say that, Jerry. Never, do you understand? It is a nasty word and you mustn't use it."

Jerry struggled out of her grip, frightened.

Miss Fellowes tore up the news strip with a vicious twist of the wrist. "Now go inside and play





with Timmie. He's got a new book to show you."

And then, at last, the girl appeared. Miss Fellowes did not know her. None of the usual stand-ins she had used when business took her elsewhere was available now, not with Project Middle Ages at climax, but Hoskins' secretary had promised to find *someone* and this must be the girl.

Miss Fellowes tried to keep querulousness out of her voice. "Are you the girl assigned to Stasis Section One?"

"Yes, I'm Mandy Terris. You're Miss Fellowes, aren't you?"

"That's right."

"I'm sorry I'm late. There's so much excitement."

"I know. Now I want you —"

Mandy said, "You'll be watching, I suppose." Her vacuously pretty face filled with envy.

"Never mind that. Now I want you to come inside and meet Timmie and Jerry. They will be playing for the next two hours, so they'll be giving you no trouble. They've got milk handy and plenty of toys. In fact, it will be better if you leave them alone as much as possible. Now I'll show you where everything is located and —"

"Is it Timmie that's the ape —"

"Timmie is the Stasis subject."

"I mean he's the one who's not supposed to get out, is that right?"

"Yes. Now come in. There isn't much time."

And when she finally left, Mandy Terris called after her shrilly, "I hope you get a good seat and, golly, I sure hope it works."

Miss Fellowes did not trust herself to make a reasonable response. She hurried on without looking back.

BUT the delay meant she did not get a good seat. She got no nearer than the wall viewing-plate in the assembly hall. Bitterly, she regretted that. If she could have been on the spot, if she could somehow have reached out for some sensitive portion of the instrumentation, if she were in some way able to wreck the experiment —

She found the strength to beat down her madness. Simple destruction would have done no good. They would have rebuilt and made the effort again. And she would never be allowed to return to Timmie.

Nothing would help. Nothing but that the experiment itself fail, that it break down irretrievably.

So she waited through the countdown, watching every move on the giant screen, scanning the faces of the technicians as the focus shifted from one to the other, watching for the look of worry and uncertainty that would mark something going unexpectedly wrong; watching, watching —

The count reached zero and very quietly, very unassumingly,

the experiment succeeded.

In the new Stasis that had been established, there stood a bearded, stoop-shouldered peasant of indeterminate age, in ragged, dirty clothing and wooden shoes, staring in dull horror at the sudden mad change that had flung itself over him.

And while the world went wild with jubilation, Miss Fellowes stood frozen in sorrow, jostled and pushed, all but trampled; surrounded by triumph while bowed down with defeat.

And when the loudspeaker called her name with strident force, it sounded it three times before she responded.

"Miss Fellowes. Miss Fellowes. You are wanted in Stasis Section One immediately. Miss Fellowes. Miss Fell —"

"Let me through!" she cried breathlessly, while the loudspeaker continued its repetitions without pause. She forced her way through the crowd with fierce energy, beating at it, striking out with closed fists, flailing, moving toward the door in a nightmare slowness.

MANDY Terris was in tears. "I don't know how it happened. I just went down to the edge of the corridor to watch a pocket viewing-plate they had put up. Just for a minute, and then, before I could move or do anything —" She cried out in sudden

accusation, "You said they would make no trouble; you said to leave them alone —"

Miss Fellowes, disheveled and trembling uncontrollably, glared at her. "Where's Timmie?"

A nurse was swabbing the arm of a wailing Jerry with disinfectant and another was preparing an anti-tetanus shot. There was blood on Jerry's clothes.

"He bit me, Miss Fellowes," Jerry cried. "He bit me."

But Miss Fellowes didn't even see him.

"What did you do with Timmie?" she rapped out.

"I locked him in the bathroom," said Mandy. "I just threw the little monster in there and locked him in."

Miss Fellowes ran into the dollhouse. She fumbled at the bathroom door. It took an eternity to get it open and to find the ugly little boy cowering in the corner.

"Don't whip me, Miss Fellowes," he whispered. His eyes were red. His lips were quivering. "I didn't mean to do it."

"Oh, Timmie, who told you about whips?" She caught him to her, hugging him wildly.

"She said with a long rope. She said you would hit me and hit me."

"She was wicked to say so. But what happened? What happened?"

"He called me an apeboy. He said I wasn't a real boy. He said

I was an animal." Timmie dissolved in a flood of tears. "He said he wasn't going to play with a monkey any more. I said I wasn't a monkey! I wasn't a monkey. He said I was all funny-looking. He said I was horrible ugly. He kept saying and saying and I bit him."

They were both crying now.

Miss Fellowes sobbed, "But it isn't true. You know that, Timmie. You're a real boy. You're a dear, real boy and the best boy in the world. And no one — no one will ever take you away from me."

IT was easy to make up her mind now, easy to know what to do. Only it had to be done quickly. Hoskins wouldn't wait much longer, with his own son mangled —

No, it would have to be done tonight, *this* night; with the place four-fifths asleep and the remaining fifth intellectually drunk over Project Middle Ages.

It would be an unusual time for her to return, but not an unheard-of one. The guard knew her well and would not dream of questioning her. He would think nothing of her carrying a suitcase. She rehearsed the noncommittal phrase: "Games for the boy," and the calm smile.

Why shouldn't he believe that?

When she entered the dollhouse again, Timmie woke and ran to

her and she maintained a desperate normality to avoid frightening him. She talked about his dreams with him and listened to him ask wistfully after Jerry.

There would be few to see her afterward, none to question the bundle she would be carrying. Timmie would be very quiet and then it would be done and what would be the use of trying to undo it? They would let her be. They would let them both be.

She opened the suitcase, took out the overcoat, the woolen cap with the earflaps and the rest.

Timmie said, with the beginning of alarm, "Why are you putting all these clothes on me, Miss Fellowes?"

She said, "I am going to take you outside, Timmie. To where your dreams are."

"My dreams?" His face twisted in sudden yearning, yet fear was there, too.

"You won't be afraid. You'll be with me. You won't be afraid if you're with me, will you, Timmie?"

"No, Miss Fellowes." He buried his little misshapen head against her side, and under her enclosing arm she could feel his small heart thud.

It was midnight and she lifted him into her arms. She disconnected the alarm and opened the door softly.

And she screamed, for facing

her across the open door was Hoskins.

THERE were two men with him and he stared at her, as astonished as she.

Miss Fellowes recovered first by a second and make a quick attempt to push past him; but even with the second's delay, he had time. He caught her roughly and hurled her back against a chest of drawers. He waved the men in and confronted her, blocking the door.

"I didn't expect this. Are you completely insane?"

She had managed to interpose her shoulder so that it, rather than Timmie, had struck the chest. She said pleadingly, "What harm can it do if I take him, Dr. Hoskins? You can't put energy loss ahead of a human life!"

Firmly, Dr. Hoskins took Timmie out of her arms. "An energy loss that size would mean millions of dollars lost out of the pockets of investors. It would mean a terrible setback for Stasis, Inc. It would mean eventual publicity about a sentimental nurse destroying all that for the sake of an apeboy."

"Apeboy!" said Miss Fellowes, in helpless fury.

"That's what the reporters would call him," said Hoskins.

One of the men emerged now, looping a nylon rope through eye-

lets along the upper portion of the wall.

Miss Fellowes remembered the rope that Hoskins had pulled outside the room containing Professor Ademewski's rock specimen so long ago.

She cried out, "No!"

But Hoskins put Timmie down and gently removed the overcoat he was wearing. "You stay here, Timmie. Nothing will happen to you. We're just going outside for a moment. All right?"

Timmie, white and wordless, managed to nod.

Hoskins steered Miss Fellowes out the dollhouse ahead of himself. For the moment, Miss Fellowes was beyond resistance. Dully, she noticed the hand-pull being adjusted outside the dollhouse.

"I'm sorry, Miss Fellowes," said Hoskins. "I would have spared you this. I planned it for the night so that you would know only when it was over."

She said in a weary whisper, "Because your son was hurt. Because he tormented this child into striking out at him."

"No. Believe me. I understand about the incident today and I know it was Jerry's fault. But the story has leaked out. It would have to, with the press surrounding us on this day of all days. I can't risk having a distorted story about negligence and savage Neanderthals, so-called, distract

from the success of Project Middle Ages. Timmie has to go soon anyway; he might as well go now and give the sensationalists as small a peg as possible on which to hang their trash."

"It's not like sending a rock back. You'll be killing a human being!"

"Not killing. There'll be no sensation. He'll be simply a Neanderthal boy in a Neanderthal world. He will no longer be a prisoner and alien. He will have a chance at a free life."

"What chance? He's only seven years old, used to being taken care of, fed, clothed, sheltered. He will be alone. His tribe may not be anywhere near where you snatched him from — that was over three years ago! And even if they were, they would never recognize him! He will have to take care of himself. How will he know how?"

Hoskins shook his head in hopeless negative. "Miss Fellowes, do you think we haven't thought of that? Do you think we would have brought in a child if it weren't that it was the first successful fix of a human or near-human we made, and that we did not dare to take the chance of unfixing him and finding another fix as good? Why do you suppose we kept Timmie as long as we did, if it were not for our reluctance to send a child back into the past?"

His voice took on a desperate urgency. "It's just that we can wait no longer. Timmie stands in the way of expansion; Timmie is a source of possible bad publicity; we are on the threshold of great things and I'm sorry, Miss Fellowes, but we can't let Timmie block us."

"Well, then," said Miss Fellowes sadly, "let me say good-by. Spare me that much. Only five minutes to say good-by."

Hoskins hesitated. "All right. Go ahead."

FOR the last time, Timmie ran to her, and for the last time, Miss Fellowes clasped him in her arms.

She hugged him blindly. She caught at a chair with the toe of one foot, moved it against the wall and sat down.

"Don't be afraid, Timmie."

"I'm not afraid if you're here, Miss Fellowes. Is that man mad at me, the man out there?"

"No, he isn't. He just doesn't understand about us. Timmie, do you know what a mother is?"

"Like Jerry's mother?"

"Did he tell you about his mother?"

"Sometimes. I think maybe a mother is a lady who takes care of you and who's very nice to you and who does good things."

"That's right. Have you ever wanted a mother of your very own, Timmie?"

Timmie pulled his head away from her so that he could look into her face. Slowly, he put his hand to her cheek and hair and stroked her, as long, long ago she had stroked him.

He said, "Aren't you my mother?"

"Oh, Timmie!"

"Are you angry because I asked?"

"No. Of course not."

"Because I know your name is Miss Fellowes; but — but sometimes I call you mother inside. Is that all right?"

"Yes, yes. It's all right. And I won't leave you any more and nothing will hurt you. I'll be with you, to care for you always. Call me mother so I can hear you."

"Mother," said Timmie contentedly, leaning his cheek against hers.

She rose and, still holding him, stepped up on the chair. The sudden beginning of a shout from outside went unheard; with her free hand, she hauled with all her weight at the stout nylon cord where it hung suspended between two eyelets.

And Stasis was punctured and the room was empty.

— ISAAC ASIMOV

ON THE DOUBLE

By LLOYD BIGGLE, JR.

*Failure was impossible — they
had the one true formula: the
victor belongs to the spoils!*

Illustrated by DICK FRANCIS

GROUP Leader Mivar stood rigidly at attention and tried not to think of the maddening itch in the scar tissue at the base of his spine. The unfamiliar, sweltering clothing constricted his limbs and gave him an alarming sensation of impending suffocation. In that moment of extreme discomfort, he allowed him-

self a treasonable thought.

He did not want to be a hero. He could not recall the precise steps by which he had blundered into this mess, but he wanted out.

General Zort paced back and forth in front of Mivar, flourishing his tail as he pivoted. It was a magnificent tail, long and sturdy, stylishly trimmed. There were ru-

mors that the general dyed his tail, but Mivar couldn't detect any irregularity of color in its glimmering blackness. He allowed his eyes to follow it enviously.

The general noticed this, or perhaps Mivar inadvertently allowed a thought to escape. The general halted.

"Too bad about your tail, Mivar," he said, affectionately caressing his own. "But it had to be done. You understand that. A tail just can't be hidden under those silly clothes."

"I understand, sir," Mivar said.

The itch had become a throbbing torment. He shouldn't have let them do it, he thought. He should have defended his tail with his life. To lose a tail in combat would be bad enough, but to have it sliced off by a doctor, under local anesthesia, was utterly humiliating. There were not enough honors in the Empire to compensate for it. Females would ridicule him. He would lose his coveted position in the Palace Guard. How could he parade his men without a tail?

THE general was scrutinizing him carefully. "The face is excellent. It is an amazing likeness."

The royal surgeon stepped forward and bowed. "The hearing flaps must be done again," he said. "They are not large enough."

"Not large enough!" Mivar exclaimed.

"Come, now," the general said. "You can have them removed when you return."

Mivar jerked back to attention.

"Vril?" the general said.

The general's chief scientist stepped forward.

"What do you think?"

"It's developing nicely," Vril said. "The preparation will have to be intensive, but I am certain we shall succeed." He whirled on Mivar and spoke in harsh, alien tones. "Who are you?"

Mivar's tongue struggled awkwardly to form the strange words. "I am Major Jeffery Holder, Commander of the First Venus Expedition."

Vril moved to the side of the room and touched a button. Sounds boomed at them. Alien sounds. The voice of an Earthman. "I am Major Jeffery Holder, Commander of the First Venus Expedition."

"Not bad," the general said.

"Certainly it is not bad," Vril said. "It is also not good, and it must be perfect. But we shall work at it. It will be done."

"And you are certain of success?"

Vril bowed. "As positive as one can be amidst life's many complicated uncertainties."

"Carry on," the general said. He walked majestically away, flourishing his tail. His entourage filed out after him, also with tails



waving. As soon as their backs were turned, Mivar's hand leaped to the base of his spine and scratched energetically.

"Now then —" Vril began.

Mivar sat down wearily. Standing was a difficult process, without the aid of a tail. "More?" he said.

"More. Who can tell what situations you must face, what emergencies? Reciting a few statements will not be enough. You must speak the language, and speak it perfectly. You must study this Major Jeffery Holder — study him in his cell, and study the films we have taken. You must talk like him, and walk like him, and act like him. You must even think like him. They did a very good job on your face, and your form is similar to his. But appearance is only the first step. The gods have generously presented us with this opportunity and we dare not blunder. Now then, listen, and repeat the words. Imitate the voice."

He touched the button and the alien voice filled the room. "I am Major Jeffery Holder, Commander of the First Venus Expedition."

AND so it went. For half a light-cycle, Mivar slaved under the sharp eyes of Vril. Hidden, he observed Vril's interviews with the captured Earthman. He watched films. He learned to mimic the Earthman's walk, and his gestures,

and even his facial expressions. The Earthman's recorded conversation was played to him as he slept. And in time, even Vril had to admit that he was becoming proficient.

Somewhere nearby, another officer was studying the other Earthman, Lieutenant Roger Anderson — studying him under the sharp tutelage of Vril's assistants, and making, Vril informed Mivar, excellent progress.

"The first surgery didn't turn out as well as yours," Vril said. "But they have that corrected now. It's too bad that stupid patrol had to kill the other three. The odds would be more in our favor if we could send back a full crew of five."

"Why not?" Mivar asked. "We know what they looked like."

"But we don't know what they talked like, or how they acted. There's no point in training an officer and sending him along if he's going to give the entire project away the first time he opens his mouth. No, we'll send back the two of you, and you can regretfully explain that the others were killed in an accident, which is true. Better make it wild animals. They expected wild animals. Now then." He switched to the alien language. "Tell me, Major, what did you find on this planet Venus?"

Mivar delivered a brief lecture, based entirely upon carefully planned misinformation.

General Zort held a meeting at his headquarters to review progress, and as Mivar stood waiting, an Earthman entered the room and approached him. He halted in front of Mivar, snapped to attention, and delivered an Earth salute with his hand.

"Lieutenant Anderson reporting, sir," he said.

"At ease, Lieutenant," Mivar said.

The onlookers applauded, and the lieutenant flashed a thought at Mivar: "Group Leader Hezzit."

"Group Leader Mivar," Mivar flashed back. "Wonder why they kept us apart all this time."

"They didn't want us to get the Earthmen confused."

"But now," Vril said, "you know your subjects well. Next you must learn how they behave with each other. We are placing them in the same cell, for observation purposes."

General Zort interrupted. "It is time we did some serious planning."

"**T**HERE are many obstacles," Vril said, "but in my opinion, it needs only proper planning."

"I am in complete agreement," the general said. "What you have accomplished is astonishing. Do we show Mivar and Hezzit to the Earthmen? I would like to see their reactions."

"Definitely not," Vril said. "We must not let them suspect our

plans. Without being aware of it, they are giving us valuable information, and if they become suspicious, they will certainly create difficulties."

"You are entirely correct, as usual," the general said hastily. "Let us discuss these obstacles."

"First," Vril said, "they must learn to operate the ship."

"Obviously."

"This can be done. They will return it to the planet Earth, and a short time before they reach their destination, they will communicate with Earth. They will say their communication device had broken down and they had just succeeded in repairing it. They will place the ship in an orbit near the space station which the Earthmen have circling their planet. This is according to plan, because the Earthmen feared there would not be sufficient fuel remaining for a landing on Earth. Our own calculations confirm this."

"No doubt they will receive a hero's welcome when they arrive on Earth. We confidently expect that they will receive every honor and consideration. So — when they complain of extreme fatigue after their long and trying expedition, it is to be expected that they will be placed in seclusion for the rest which their heroic efforts have earned. We hope this will be done with a minimum of contacts with Earthmen. The fewer the contacts,

the less likely it is that their real identities will be discovered.

"At the first opportunity after they are placed in seclusion, they will escape. Disappear."

"Won't that arouse suspicion?" the general asked.

"It will arouse concern, but not suspicion. The Earthmen will believe that the hardship of the expedition has unbalanced them mentally. There will be an intensive search, of course, but it will not be a search for alien spies. It will be a search for two mentally ill Earthmen.

"As soon as Mivar and Hezzlit have escaped, they will alter their appearances according to a plan which they will practice. We have studied the captured Earthmen and all reproductions of Earthmen which were found in the ship, and we have devised composite identities which will serve as a satisfactory disguise. There are difficulties that must be worked out, but it can be done. They will disappear. If they have been separated, they can easily arrange to meet, because telepathic communication is known to the Earthmen only as a theory. They will meet, and then they will be able to collect the information we must have."

"WOULDN'T it be less risky to have them land on the planet in secret?" asked General Zort.

"The Earthmen have detection devices and an attempt at a secret landing would be highly suspicious," Vril replied. "It might alarm the Earthmen. That is one thing we must avoid."

"Very well," the general said. "And how do they bring the information back to us?"

"A very critical question. We are developing a more compact fuel for the ship. We can arrange secret compartments for it. They will be able to return once they get back to the ship. This will be difficult, whether the ship is left in orbit or whether the Earthmen refuel it and return it to Earth. But Mivar and Hezzlit are resourceful and ingenious, as we well know. They will find a way. Their return does not worry me. The most critical stage of the operation will occur when they land on Earth. I would like to show you some dream-strips. This one is Major Holder's."

Vril signaled and the screen at the far end of the room flashed to life.

The spaceship had landed. It stood surrounded by a throng of wildly cheering Earthmen. Major Holder appeared in the airlock and clasped his hands above *his* head.

As he started down the ramp, a figure broke loose from the crowd, dashed up the ramp and hurled itself into his arms.

The scene shifted abruptly. An interior scene. A large sleeping cushion in the background, mounted ridiculously above the floor.

The strange figure clung to the major, who stooped, lifted it and turned.

Vril raised his hand and the screen went blank.

"What follows is disgusting," Vril said.

"What is it?" the general wanted to know.

"An Earth female. That one is Major Holder's mate."

"Ah!"

"You see the problem. The Earthmen have a single mate and they spend their lives in close association. It is likely that their mates know them more familiarly than any of their other associates. The mates will certainly be present to greet them when they return. In my opinion, this is the most dangerous obstacle they will face. If they pass it successfully, our plan must succeed. Here is a dream-strip of Lieutenant Anderson."

In the company of a group of obviously important personages, the lieutenant made his way through a crowd. Guards pushed the cheering spectators aside to make way for them. Suddenly the lieutenant turned, battled his way into the crowd, and clasped a female in his arms.

VRIL stopped the picture with a wave of his hand. "There are exaggerations and inaccuracies in a dream-strip, of course, but by comparing enough strips we can obtain an excellent idea of how to surmount this obstacle. The females alter their appearance in subtle ways, but Mivar and Hezzit must be able to recognize these mates of Major Holder and Lieutenant Anderson under any circumstances. If the mates do not come to them on the landing, they must seek them out. The greeting can be brief and undemonstrative, but there must be a greeting, and the mates must be convinced."

"What about afterward?" Mivar said, squirming nervously on his cushion. The sight of the room with the sleeping cushion had incited an apprehensive itching in his scar tissue.

"You are tired. You need rest. Even the presence of your mate would be disturbing to you. You might even be ill. There shouldn't be any problem about afterward. But you must greet the mates properly, according to Earth custom. Not to do so would be fatal."

Hezzit said uneasily, "We must—"

"It is called a kiss," Vril said. "The mouths meet. The Earthmen have no tails, as you well know. They use the kiss as a substitute. Come — certainly you will not allow a mere Earth female to

stand in the way of our glorious conquest."

"Does the Earthman say anything to his mate?" Mivar asked.

"As you might expect from a species that does not have thought contact, the Earthman says much. You will be well rehearsed on that point. I have compiled all of the dream-strips in which the mates appear. And there are many of them. We will add others as we record them. It is unfortunate that the Earthmen lost all of their personal possessions in the river crossing when they were attempting to escape our patrol. I understand that they had life photos of their mates, and there is always a danger that the appearance of these Earth females may be exaggerated or modified in the dream-strips.

"But we can make the dream-strips serve our purpose. You will watch now, Mivar, and remember that you must be able to recognize Major Holder's mate, and you must know how to manage the greeting."

They ran the dream-strips, Major Holder's and Lieutenant Anderson's.

Mivar had the major's mate so thoroughly impressed into his conscious and subconscious mind that even he dreamed of her. The major called her Sally. He dreamed of her in a variety of odd settings, both public and private. The

dream-strips showed them going through the pointless motions which were called dancing, striking a ball with a stick in some absurd test of skill, swimming, dressing or undressing, usually with each other's assistance.

Hezzit was suffering the same familiarity with Lieutenant Anderson's mate, who was called Kathy.

The ultimate indignity occurred when Vril made them practice the Earthman greeting, the kiss. He made them practice it on each other.

THEY learned to fly the Earthmen's ship, suffering near-disaster on the takeoff, but successfully placed it in an orbit around their planet. They gazed in awe at their cloud-shrouded home and apprehensively at the distant light in the sky that was Earth. For the first time, they saw the stars. Vril, who accompanied them, made observations and films. Hezzit, a mathematical genius, amused himself by laying out courses for Earth and sarcastically commenting on the inefficiency of the Earthmen's computer.

"Our people have lived in blindness," Vril said. "The ship operates on a simple principle. We could have built one centuries ago, if we had known what lay beyond our sky. We speculated, but we did nothing because there seemed to be no purpose. And now — look!

Worlds to conquer! Thousands of worlds!"

They were badly shaken up on landing, but suffered no serious damage. They continued to practice, using the fuel that Vrìl developed.

They traveled long distances in toward the sun, and turned back to explore space on the Earthward side. They used the ship to put a space station in orbit above the clouds of their own planet. They saw the completion of the first of the giant warships Vrìl had planned, and they tested it, and started the training of the crew that would operate it. They could reasonably call themselves experts. They were ready.

There was an audience with the emperor. His Majesty descended from his throne and presented both group leaders with the Order of the Tail, and as the sparkling insignia was pinned to his Earth clothing, Mivar felt compensated, at least to a degree, for his own lost tail.

More honors — greater honors — would be theirs after they successfully completed their mission, His Majesty informed them. There would be an entire world to divide, and honor enough for all.

"When you return," Vrìl told them, "the invasion fleet will be ready. Our success depends upon yours."

They left for Earth.

A SINGLE Earth week from the end of their journey, Mivar broke radio silence. "*Morning Star* calling Earth," he announced.

There was a blank, nerve-wracking silence, and then the response exploded at him. "Good God, man! We'd given you up. What happened?"

"Transmitter broke down," Mivar said. "We just got it fixed."

"How are you?"

Mivar said laconically, "Three men lost. Holder and Anderson returning. Expect to orbit in seven days."

"How are you holding up?"

"It's been a rough trip, with just the two of us. We're pretty tired. Reserve a couple of rooms for us at the bottom of a coal mine."

"Will do. This is great, just great. Tough about the others, of course, but — what sort of place is Venus?"

"Damp," Mivar said, and signed off.

From the pilot's seat, Hezzit asked, "Everything all right?"

"Seems to be," said Mivar.

"This will be a great triumph for Vrìl. And he deserves it."

"He certainly gave us a thorough preparation," Mivar said. He remembered one interview with Major Holder, when Vrìl had asked, "How do you feel after a trip through space?" And the ma-

major had replied, "You feel like reserving a room at the bottom of a coal mine." Mivar had memorized and absorbed the major's habits of speech until they were his own. He had memorized the major's own responses to hundreds of situations. Had it not been for the necessity of greeting the major's mate, he would have looked forward eagerly to his visit to the planet Earth.

Hezzit was undergoing similar apprehensions. "This distinctive odor the Earthmen have," he said. "Do you remember it?"

"How could I forget it?"

"Will the Earth females have the same odor?"

"I don't know. I suppose they might. We can try to make it a short greeting."

"I wasn't thinking about that. I can always — what's the Earth expression?"

"Hold your nose."

"Right. I can always hold my nose — mentally, of course. But I was wondering if we have an odor that would be distinctive to the Earthmen."

Mivar caught his breath. "I hadn't thought about that. Vril didn't think of it."

"It's a possibility. One never knows how one might smell to another species. And then — supposing they notice the lack of an Earthman odor?"

"There should be other things

to keep their attention away from odors when we land."

"There'd better be."

ONE hour later, Earth time, General Rysdale, the commander of the Venus Project, called them. Mivar delivered his first report of a nonexistent Venus, and the general absorbed it intently.

"The place sounds like a roaring hell," he announced.

"It certainly is that, sir," Mivar said.

"And you found nothing but those dismal swamps from pole to pole?"

"There are a few low hills in the south-temperate zone, and what might be the remains of a mountain range around the north pole. Nothing much at either place but some rocks sticking up. And the place is hotter than the proverbial underworld."

"Then I guess we won't be sending colonists to Venus."

"I should hope not, sir. If you do, don't ask me to volunteer."

"What did you do for oxygen? You didn't have enough for all this time. It's more than two years since you left."

"There's plenty of oxygen there, sir. It comes mixed with some gases that made the guinea pigs drop dead after one whiff. We didn't try it ourselves, but we extracted the oxygen."

"You're sounding good, Holder. How do you feel?"

"Tired," Mivar said. "Very tired. I won't feel like much of anything until I get some rest."

"We'll see that you get it — all you want. How's your health?"

"All right, as far as we know. We're just tired."

The general signed off. The following day, Mivar was asked to dictate an official report on his experiences. He was prepared. He already had it memorized.

After that, they reported their position twice daily, and shrugged off Earth's solicitous interest in their welfare. They orbited on schedule and a small space tug towed them to the space station. They moved down a connecting tube to the station and their first contact with Earthmen.

A colonel met them. Mivar came to attention, saluted snappily and began, "Colonel —"

"Nuts!" the colonel said, slapping him heartily on the back. "You never called me colonel before. Jim is good enough now. Besides, you're a colonel yourself now. Mean to say they didn't tell you?"

Mivar accepted the hand the colonel thrust at him and said, "No. They didn't tell us."

"Maybe the general's keeping it for a surprise. Be sure and let it surprise you, or he might skin me."

HE stepped back and scrutinized Mivar. "You don't look bad, fellow, considering what you've been through. I thought you'd be a stretcher case. You look just the same, except you've lost some weight."

"I feel different," Mivar admitted.

"Well, no wonder! You'll get over that. All you need is some rest and some good cooking. But you've accomplished something, fellow. We've been wondering for centuries just what was behind those Venus clouds. Now we know. Nothing but swamp, eh?"

"Not much more than swamp."

"And those big lizards — holy terrors, eh?"

"I suppose you'd call them holy terrors. I don't know that they were lizards. They just looked that way. Jones was our biologist, you know, and we never had a chance to discuss them with him."

"Tough. Poisonous, you say?"

"One swipe of the claws and that was it."

"Tough. I suppose we shouldn't call them lizards. It's natural to try to compare extraterrestrial life with Earth life, but it's probably wrong. What did you call them?"

"Nothing for publication," Mivar said.

The colonel slapped his back again and said, "Well, the rocket is ready to go. How are you, Anderson? Didn't mean to neglect

you. It's Captain Anderson now, you know. I guess we'd better not keep the general waiting — especially since he has a mob of VIPs waiting with him."

They took seats in the rocket ship and strapped themselves down. Hezzit flashed a thought at Mivar. "They don't seem suspicious."

"No reason why they should," Mivar flashed back.

They had passed the first obstacle.

Mivar had time for careful reflection as they dropped Earthward. He remembered the colonel from one of Major Holder's dream-strips, but the major had not given his name. In spite of this, no embarrassment had resulted. The Earthmen had accepted him naturally.

It came to him as a momentous revelation that what they were doing was such a fabulous thing, such an inconceivable thing, that the Earthmen could not possibly suspect. The Earthmen had no reason to believe there was intelligent life on Venus. Even if there were, the Earthmen had no reason to believe it resembled themselves in any way. And if it did — who among them would expect inhabitants of Venus to return in the *Morning Star*, looking, talking, acting like members of the ill-fated crew, even knowing their innermost thoughts?

If Mivar were to confess his deception now, they would think him mentally unbalanced. A medical examination would prove otherwise, of course, but Mivar and Hezzit would disappear before they became the subjects of examinations.

He flashed a thought at Hezzit. "It's going to be all right. They can't possibly suspect anything."

Hezzit flashed back nervously, "I think we should have spent more time practicing that kiss."

"You didn't have to remind me," Mivar grumbled.

THERE were crowds at the landing field. It was much like the tumultuous welcome the returning Earthmen had been accorded in the dream-strips. Mivar, however, had the impression that the onlookers were curious rather than joyful. He walked down the landing ramp, waited for Hezzit, and the two of them moved off side by side.

"How do you feel?" Mivar flashed.

"Like I'll be glad when it's over."

The official welcoming party stood some distance away. The crowd was held back by a rope — Mivar had seen the same arrangement in several dream-strips. There were the photographers, the newsmen, and after looking at so many dream-strips, the whole seemed so

familiar to Mivar that he had the impression of having been there before.

When they approached the official party, he saw that there were several females among it. He searched their faces anxiously for one, and only one, and failed to find it. As he slowed his steps, one of the females broke away and raced toward them. She threw herself into Hezzit's arms, and Mivar saw with a thrill of satisfaction that Hezzit was handling himself with masterful correctness.

"Everything all right?" Mivar flashed.

Hezzit flashed back, "The thing reeks."

Mivar turned again to the little group that stood waiting. The familiar face, the hauntingly familiar face, was not there. He hesitated with a growing feeling of panic, running his eyes over the crowd that stood watching quietly.

Suddenly he saw it. There could be no doubt. The female stood in the front line, hands on the rope. It was Holder's mate.

He hurried toward it.

The face was smiling and weeping as he reached it. He stood with the rope between them and took the female into his arms. Its arms tightened around his neck. Its words came to him clearly above the noise of the crowd.

"Jeff! Oh, Jeff. But—you shouldn't have —"

The face brushed his. The lips moved toward his. He knew then that everything was all right. The deception was complete. No one would ever know.

The next moment, pain exploded in his brain.

GENERAL Rysdale said, "One dead. What about the other?"

"He just wouldn't be taken alive, sir. Whatever they are, they're some fighters. He took on an entire squad and flattened every one of them. Then he took their guns and started shooting. I didn't think the casualties were worth it, and there was always the chance he'd turn a gun on himself the last minute."

"You're probably right. I doubt that we could have made him talk, even if we'd taken him. If it had to be, it had to be."

"Did you get the report on Holder — I mean the one that looked like Holder?"

"I got it. Extraterrestrial life, highly intelligent and damned cunning. The thing could have fooled Holder's own mother. Colonel Meyers has known Holder all his life and he didn't suspect a thing. Those two were equipped to do a more thorough spying job on this planet than could be imagined. How they were going to get the information back to Venus, I don't know. We'll have to take a careful look at the *Morning Star*."

"That's being worked on now, sir."

"As for their procedure — I've been wondering about that insistence on a secluded rest. It didn't sound unusual at the time, but now I'm beginning to wonder. They had something planned. They were going to collect information and get it back to Venus. What next? An invasion?"

"I suppose it's possible."

"You're darned right it's possible. They have an incredibly high technology. The miniature photographic equipment this phony Holder was carrying is beyond anything we can make. People with that ability can copy a spaceship, and we know darned well they can fly one. They got the *Morning Star* back here, and they put it on the station's orbit about as slickly as the boys up there had ever seen it done. Well, we're forewarned now. We'll have a few surprises ready for any invaders."

"Since they won't be getting the information, they might not invade."

"That's possible, but we won't count on it. We might even plan a little invading ourselves. We'll throw out that tripe they fed us

about Venus, too. Since it has a high civilization, it might even be a nice place to live. Did you talk to the girl?"

"Yes, sir. She says she never knew Holder."

"That was a rather warm greeting for a man she never knew. Check it out. Holder had a reputation as a ladies' man, and I think you'll find she was number one on his list at the time he left Earth."

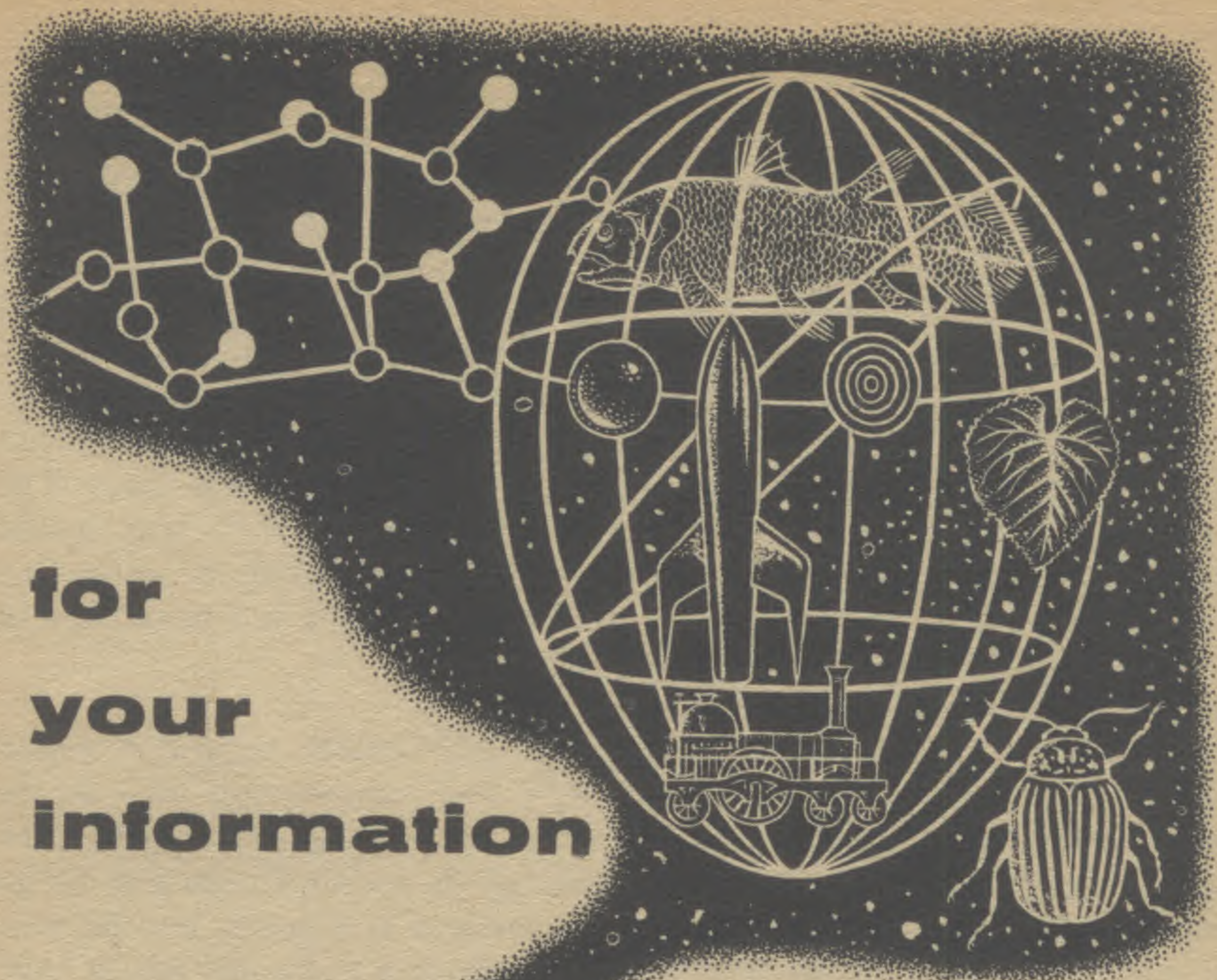
"I'll check it all the way through, sir."

"It was a good plan they had. We shouldn't underestimate them. It scares me to think how close they came to bringing it off. But—" he grinned and tilted back in his chair — "we had two good breaks. I don't pretend to understand how they happened, but here they are. The first was that Holder had a jealous wife. The second was that this double of Holder's greeted another woman so warmly right under Mrs. Holder's nose. It horrified me at the time, but when I think back on it, it was nothing short of marvelous the way Mrs. Holder grabbed that guard's gun and shot the Venusian dead."

— LLOYD BIGGLE, JR.



**for
your
information**



BY WILLY LEY

The Last

of The Moas

I HAVE the faint feeling that the word "moa" would be far less known than it is if it were not such a useful word for crossword-puzzle purposes. No statistics are available—as so often happens in the case of cultural items of probably undisputed value — but I would guess that a diligent researcher could turn up a different crossword puzzle for every



day in the year which shows three spaces to be filled in with something defined as "extinct bird."

To the naturalist, the three letters M-O-A spell something else again — it might as well be D.O.A. Exploring and literate men got to New Zealand too late to see the moas, just as they have been too late in quite a number of other places. To make the whole story more lamentable, exploring seamen occasionally did get to such interesting places in time.

But they did not know what to look for, from our point of view. Maybe they simply missed what we would consider interesting. In some cases, one may suspect that they merely failed to write down what they saw. At any event, a modern naturalist, transported back to earlier but still historical times by time machine, could seize on various lost opportunities.

He would have joined the Phoenician sailors, for example, who set out in 596 B.C. to round Africa at the request of Pharaoh Nekho (or Niku) and who actually succeeded in doing it during the two years that followed. We don't know whether they passed through the channel separating Madagascar from the African mainland or whether they sailed "outside" of Madagascar. We do know that they made numerous landings; one of them may have been on Madagascar. If a modern naturalist had

been along, he would have made sure of such a landing in order to look for the near-fabulous *Aepyornis*, the enormous ostrichlike extinct bird of that island.

We don't really know how it looked. Of course we can reconstruct its skeleton; in fact, we have. But we have no idea of its plumage. All we know is that it has not been extinct for very long. The Phoenicians of that trip would surely have found it; even the Crusaders might still have been in time.

A MODERN naturalist would also accompany the Arabs who at a reasonably early time sailed the Indian Ocean and did go as far east as Sumatra and Borneo. The modern naturalist would have talked the shipmaster into turning due south there to get to the Australian shore. Presumably he would have been in time to see the now extinct giant marsupials of Australia, colossi as large as the strongest bull. They were no longer among those present when Australia was actually discovered.

Such a naturalist might even have seen the *Megalania*, indubitably preferring a safe shelter if this occasion came up. The *Megalania* was a monitor lizard of which the following things are certain: it was enormous in size and did not become extinct until fairly recent times.

As to its size, learned opinions differ — some scientists felt that the animal might have been more than thirty feet long; others gave it only twenty feet.

The date of its extinction is equally uncertain. Anthropologists have concluded from native legends (which may or may not refer to this monitor) that the *Megalanian* was still alive less than a thousand years ago. But the remains actually found by naturalists look older than that.

The last item in this condensed list of missed opportunities is that our naturalist should have been aboard the good ship *Heemskirk* when its captain, Abel Janszoon Tasman, saw high mountains rise from the sea on December 16, 1642. This date marks the discovery of New Zealand. The modern naturalist would have made Tasman land instead of just sailing on. He then would certainly have been able to show Tasman a few moas.

Like the *Aepyornis* of Madagascar, the moas were ostrichlike birds, many of them very large. But there were also smaller varieties. They were distributed over the three islands which comprise New Zealand, the two large ones which are now called North Island and South Island, and small Stewart Island to the south of South Island. The qualifying statement "now called" was necessary because on

some old maps you can find the present Stewart Island labeled as South Island. On these maps, the present South Island logically appears under the name of Middle Island.

We know the moas mostly from their bones that have been found in all three islands. In addition to the bones, a few feathers are known and quite a large number of eggshells that could be restored. Naturally we cannot tell which eggs belonged to which bird, for comparative size is no guide. The still living New Zealand kiwi, though probably not a direct relative of the moas, is at least of the same general type, and it throws any guesswork into the wastepaper basket. The kiwi, a smallish bird, lays an egg which is far larger, by comparison, than that of the African ostrich. On the other hand, the eggs of the cassowary are smaller than one would expect.

FOOTPRINTS are known, too, of both the larger and the smaller species. The small ones show a stride of not quite 20 inches, while the large ones show a stride of over 30 inches. The large ones look surprisingly like some dinosaur footprints of much greater age. In the case of the footprints as well as of the length of the stride, there is a definite correlation between size of print and length of stride and the size of the

bird. For this reason, at least some of the footprints can be tentatively ascribed to a species.

The moas of the past are now subdivided into five different genera, each with several species. It should be said at the outset that some of the species are doubtful, since they are based on only a few remains. It is quite possible that we have a few more species in our catalogues than existed in reality; it has happened with other extinct animals that male and female were classified as two different species if they differed considerably. However, the following is the tentative list of the moas, by genera:

Dinornis. The moas belonging to this genus were the tallest of the lot, their heads towering more than 12 feet above the ground. Largest of the six species was *Dinornis maximus*. All species were rather light-boned.

Euryapteryx. The moas of this genus were squat and heavy but not very tall, their heads being five to six feet above the ground. They must have been very numerous at certain times. There are five recognized species; a sixth is uncertain.

Megalapteryx. Two species from the South Island only. These were large for birds but small for moas, being not much over three feet tall. As the name of the genus indicates (from Greek *megas*, meaning large, and *apteryx*, the scien-



Fig. 1: Reconstructed skeleton of a moa



Fig. 2: The Kiwi, living bird of same type as moas but not closely related to them

tific name of the kiwi), they might also be taken for giant kiwis.

Emeus. Three recognized species with a fourth one uncertain, standing about four feet tall.

Anomalapteryx. Five species, most of them very early and rather small, of about the size of the *Megalapteryx* moas. One of these five species grew seven feet tall; it is also the most recent of this genus.

This list of genera, comprising just short of two dozen species, must not be misunderstood. At no time could one have found all

twenty-two species alive on the islands. The best one could have expected would have been ten or eleven species alive simultaneously. Unfortunately, we cannot say what time that would have been. The era of the Homeric heroes—1000 B.C.—seems like a good guess.

BY now, I have told what is really known about the moas; everything else is either unknown, or uncertain, or at least disputed.

Even the story of how the moas became known to science is rather complicated. The first explorer to



Fig. 3: *Dinornis* and early Maori, group in a New Zealand museum

All photographs: Courtesy New Zealand Government, Tourist Department

land on New Zealand and to talk to the Maori living there was Captain James Cook, during his visit in November 1769. With the aid of interpreters who seem to have been of doubtful value, Captain Cook spoke to the Maori chieftain Tawaihura and asked him, among other things, about the animals occurring on the island.

Chief Tawaihura told the captain about a large and dangerous lizard — which must have been purely mythological, since no really large lizard does or did exist on New Zealand — but did not say a word about large birds. We can be rather certain now that there were no moas in the area where Tawaihura lived, even though they may still have existed elsewhere. With great fire and lack of logic, some scientists have made much of this omission, taking the negative evidence of Captain Cook's journals as positive proof that the moas became extinct at a much earlier date.

Beginning about the year 1800, people began to visit New Zealand and write books about their travels. Strangely enough, none of the first six books written on New Zealand (or about New Zealand) even mentions the moas. The first book to mention them does not use the name; it is a narrative that was published in London in 1838. Its writer was a trader by the name of Joel S. Polack and it is merely one

more kink in the story that a missionary who knew Polack swore that Polack could not write.

Well, the book with Polack's name on it exists; the New York Public Library at Fifth Avenue and 42nd Street has a copy of it and I have read it myself. I cannot imagine that a trader can pursue his business and presumably make a profit without being able to write, but it might easily be that trader Polack did not write English and that the printed book is a translation of a manuscript in another language. At any event, trader Polack relates that he was shown very large bones and adds that the animals these bones came from were alive on the South Island. But he did not make clear what made him say so. Did the Maori tell him? Or did he draw this conclusion himself?

At about the time trader Polack was there, a Reverend William Colenso began hearing stories about gigantic birds from natives, and another missionary, the Reverend William Williams, started collecting moa bones.

THE first moa relic to be placed into scientific hands was a large leg bone with both ends broken off. The year was 1839 and the hands which received this bone were very competent indeed, belonging to Professor Richard Owen, of London. They also happened

to be reluctant hands — Professor Owen actually took it to be a soup bone at first glance. Even the simple fact that Owen received this bone has been embroidered nearly out of recognition. A story has it that “an illiterate sailor” left the bone for Owen when the professor was not at home.

Well, the man who took it there, and Owen was at home, was a sailor all right, but far from illiterate. He was the surgeon Dr. John Rule who had specifically traveled to England with the bone to see Professor Owen. When Owen was unimpressed, Rule persuaded him to devote more time to it.

Owen first “tried” the bone in the museum by holding it against the skeleton of a cow. It did not “fit.” Owen tried the skeleton of a horse next. Finally, having run out of large mammals, he held it next to the leg of an ostrich skeleton. This was it! The bone matched that of the ostrich, except for size.

Once Owen was convinced, nothing could hold him back. His colleagues, though admitting that it seemed to belong to a bird, suggested that he wait until more and undamaged bones became available. But Owen would have none of it. He knew that this was a bird bone, having belonged to a bird of the general build of an ostrich, but bigger and more massive by far. And since the bone was not

fossil, the bird could not be dead for very long.

Thus Owen prepared a scientific report. It could not be very long, but what there was of it was very positive. Moreover, Owen reasoned, a layman does not know what to look for unless a scientist tells him. So he ordered the printing of 500 extra copies of his short report, to be distributed in New Zealand among missionaries, shipping agents and settlers. The 500 copies were crated for shipment to New Zealand to serve as a call for more evidence. But before the crate with the pamphlets had even crossed the equator, another crate arrived in London. It was full of moa bones, the bones collected by the Reverend Williams.

There was, it is reported, some ludicrous trouble with the Royal customs inspectors who found some kind of rule against the importing of bones. Fighting, so to speak, the British Museum and the Royal Society, not to mention Owen himself, the ones who lost were the customs inspectors. The final outcome of it all was a magnificent report by Professor Richard Owen.

A FEW years later, an interesting story came from New Zealand. Governor FitzRoy had met an old Maori chieftain by the name of Haumatangi. The year was 1844 and Haumatangi was

about 85 years old. The old man told the governor proudly that he remembered seeing Captain Cook. Since the visit referred to was the one of November 1773, Haumatangi must have been about 14 at the time, so the claim sounded credible. Haumatangi added that the last moa in his province had been seen two years before Captain Cook's visit. This statement, of course, had to be taken on face value.

Another story which was circulated a little later had it that another chieftain, Kawana Paipai, said he had taken part in a moa hunt when he was a boy. The date figured out to be 1798 or 1799. Two or three other Maori, questioned around the middle of the last century about moas, declared that their grandfathers had told them about moa hunts. These dates all worked out to about 1770. It looked, therefore, as if the last moas were hunted to death around 1800.

In New Zealand itself, scientific opinions began to be sharply divided, the battle cry being, strangely enough, "the men of The Fleet" who did, or did not, find islands populated with moas. It has to be explained here that the Maori had come from islands near Tahiti in several waves of immigration. The main (and latest) wave is called The Fleet and the generally accepted date is "around 1350 A.D."

One school of thought — which became the minority party — had it that the Maori of The Fleet began to kill the moas for food and that the process of extermination was complete in Captain Cook's time. Another school of thought, however, claimed that the men of The Fleet arrived just about in time to see the last of the moas die.

It has to be said that everything written and printed about the moas in New Zealand for several decades was not written to establish facts, but to defend either the one or the other school of thought.

The ones who said the moas had died out very early had quite a number of ingenious arguments.

So-and-so-many Maori (say during the period from 1840 to 1860) did not know that moa bones had belonged to birds when they were shown them.

The word "moa" itself was used to mean "stone" or a raised small piece of land, like a flower bed.

There were only a very few proverbs and sayings in which the moas figured; they were usually figures of speech like "gone like the moa." These proverbs seemed to be centuries old.

As regards the statement that "my grandfather said that he hunted moas," it was pointed out that the words "grandfather" and "ancestor" are the same in the

Maori language. As for old Hau-matangi, he had probably just embellished on his memories of long ago hearing folk legends.

And Kawana Paipai was disposed of in two ways. One was that he also told about battles which were obviously invented. The other was that he had never made his statement about the moa hunt; the point being that there were at least three white witnesses to the statement and only one of them repeated it later.

IN the meantime, places where moas had been slaughtered and cooked were found. There could be absolutely no doubt that humans and moas had lived together at one time. The problem was to say when.

Some scientists assumed a different native population, not only pre-Fleet but pre-Maori, which must have been the moa hunters. Other scientists said that the moa-hunter period did not have to be any other culture than Maori; they had been Maori of an earlier cultural level. This idea was contradicted mostly by the Maori themselves, who refused to believe that their ancestors should ever have changed, and who imagined the sailors of The Fleet to have been precisely like their fathers and grandfathers of about 1800. This, of course, just wasn't so — the Maori, like all peoples, changed

considerably through the centuries.

Actually, everybody seems to be right depending on where you look. A number of moa-hunter campsites are indubitably Maori. Some others are almost certainly not Maori — of any cultural level. There seem to have been earlier castaways who settled on New Zealand and who did not come as organized immigrants like the Maori of The Fleet.

A fairly new scientific tool has been brought into play with some hopes of deciding the endless battle about the time of the moa hunters and, if possible, of the last of the moas. This tool is radio-carbon dating, or the C-14 method, which can tell the age of many things by their amount of carbon-14.

There are just two requirements. The first is that whatever it is that must be dated must once have been alive, bone or wood or even charcoal, for non-living things do not take up carbon-14 from the atmosphere. The second is that the object must not be older than 25,000 years or thereabouts; after that time, the carbon-14 is gone and the age becomes uncertain, except that it clearly is more than 25,000 years. Another aspect of the C-14 method is, unfortunately, that the object to be dated is destroyed in the process, so that scientists are rather handicapped when it comes to valuable specimens.

One *Dinornis* specimen was found in a freshwater deposit with its crop reasonably intact. And the crop was still full of food (plants) which could be sacrificed for dating. The result — these plants were eaten by the bird about 670 years ago or about 1300 A.D. To some, this was a surprisingly late date for *Dinornis*, because they had assumed that even the pre-Fleet Maori only knew the heavy *Eurypteryx* type.

THE argument of whether the moa hunters were pre-Maori people, pre-Fleet Maori or just Maori after The Fleet must not be taken to mean that the extinction of the moas is placed squarely on the shoulders of the moa hunters, whoever they were.

Even if nobody had ever come to New Zealand prior to Captain Cook, the moas would probably be rare birds by now. They were completely flightless, they probably bred slowly, and they were most exceptionally stupid, for the brain of a six-foot moa was the same size as that of a turkey. Many moas died in swamps, indicating they probably could not swim. On the North Island, many perished at one time because of forest fires set by volcanic eruptions. There is some evidence of disease among the moas. But the main reason their numbers declined seems to have been a fairly small climatic

change which diminished the open plains and increased the forest and swamp areas.

The moas were obviously on the downgrade for natural reasons. The moa hunters merely helped along and may have provided the final touch in the demise of the moa. But when was that?

Nobody will commit himself.

The proof that even the tall *Dinornis* type was still active and alive at the time of The Fleet has been rather a blow to some of the archeologists of New Zealand. In the course of time, the party which had proclaimed a very early date for the last of the moas had succeeded in attaining the position of "the voice of science." What they said was "science" and what the others had said was either amateurish, or just the spirit of the nineteenth century, or else a wrong conclusion due to lack of evidence that has become known since — the phrasing depended to some extent on whose opinion was being demolished.

In one point, however, even the most conservative wing of the New Zealand scientists was rather lenient. It was admitted that small moas of the *Megalapteryx* type may have survived until quite recent times on the South Island. Roger Duff, the Director of the Canterbury Museum in New Zealand (and one of those "shocked" by the outcome of the carbon-14

dating), dates two Maori-made artifacts using moa skin and moa feathers as from the seventeenth and eighteenth century respectively. Roger Duff's dating, incidentally, is based entirely on archeological and ethnological evidence.

Zoologists seem to feel that something must be wrong, even though they can't say what or why.

The simple fact is that some of the moa remains do not look as old as the archeologists say they must be. And New Zealand is not a place with a dry climate which tends to preserve animal remains indefinitely.

IT is interesting that the most recent story of a moa hunt came from the South Island, in fact from the southwestern end of the South Island where the *Takahe* — scientific name *Notornis* — was finally discovered alive after having been thought extinct.

That story takes up just one part of one paragraph in vol. II of Sir Walter Lawry Buller's *History of the Birds of New Zealand*,

published in London in 1888. The sentence reads: "Sir George Grey tells me that in 1868 he was at Preservation Inlet and saw a party of natives there who gave him a circumstantial account of the recent killing of a small Moa, describing with much spirit its capture out of a drove of six or seven."

That's all, but it might be prudent to say that Sir George Grey had been, in succession, Governor of South Australia, twice Governor of New Zealand and then Governor of the Cape Colony — in short, not somebody you would expect to make up tales.

It is true that there has been no report since then, at least not one that could be called definite. But there still are virtually unknown areas on the South Island. Maybe the last of the moas, even if a small type, is still somewhere around. I don't assert that this must be the case. But there is also no reason for stating categorically that the final chapter has been written.

— WILLY LEY

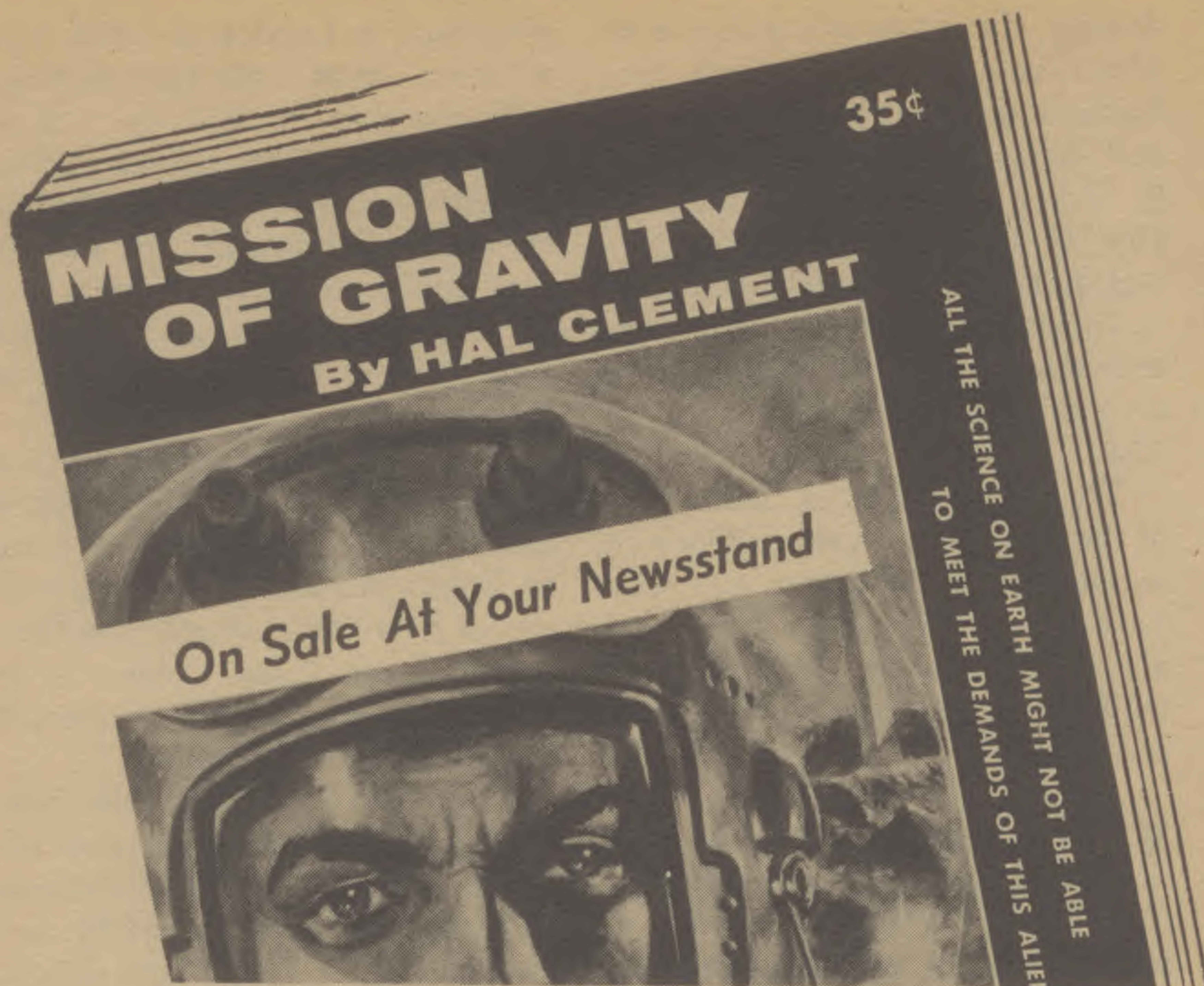
The Big News Next Month...

TIME KILLER

by

Robert Sheckley

It stands to reason that the last thing a man can bungle is his own death. But not Blaine! See why in this first book-length Sheckley story!



The massive planet, Mesklin, was tauntingly just out of reach of Earth's scientists. Marooned deep at its south pole was a specially designed rocket filled with measuring instruments and vital facts about the strangely shaped planet and its fantastic force of gravity. But no man could land and recover the rocket; no man could sustain that force of gravity.

The small Mesklinites were earth's only hope. One of Earth's young scientists made a deal with a Mesklin sea captain who agreed to make the long, arduous journey to the south pole and recover the rocket. It was

a strange deal, and the daring and resourceful little captain never made quite clear just what he would expect in return.

Thus the Bree and her crew started on their odyssey into the unknown across the wastes of Mesklin, over seas and lands bristling with barbarians. Overhead, the scientists directed them from their hovering space ship, little suspecting the devious plans of the captain, or the possibility that all the science on Earth might not be able to meet the demands of the sturdy Mesklinites.

THE STROKE OF THE SUN

By ARTHUR C. CLARKE

"Kill the umpire!" the audience

cried — and why shouldn't they?

He was on the ball, wasn't he?

SOMEONE else should be telling this story — someone who understands the funny kind of football they play down in South America. Back in Moscow, Idaho, we grab the ball and run with it. In the small but prosperous republic which I'll call Perivia, they kick it around with their feet. And that is nothing to

what they do to the umpire.

One of the first things I learned when I got to Perivia, after various distressing adventures in the less democratic parts of South America, was that last year's match had been lost owing to the knavish dishonesty of the referee. He had, it seemed, penalized most of the players on the team, disal-

Illustrated by WOOD

lowing a goal, and generally made sure that the best side wouldn't win.

This diatribe made me quite homesick, but remembering where I was, I merely commented, "You should have paid him more money."

"We did," was the bitter reply, "but the Panagurans got at him later."

"Too bad," I answered. "It's hard nowadays to find an honest man who stays bought."

The customs inspector who'd just taken my last hundred-dollar bill had the grace to blush beneath his stubble as he waved me across the border.

The next few weeks were tough, but presently I was back in what I prefer to call the agricultural machinery business. The last thing I had time to bother about was football; I knew that my expensive imports were going to be used at any moment, and wanted to make sure that *this* time my profits went with me when I left the country.

Even so, I could hardly ignore the excitement as the day for the return match drew nearer. For one thing, it interfered with business. I'd go to a conference, arranged with great difficulty and expense at a safe hotel, and half of the time everyone would be talking about football.

"Gentlemen!" I'd protest. "Our

next consignment of rotary drills is being unloaded tomorrow, and unless we get that permit from the Minister of Agriculture, some busy-body may open the cases and then . . ."

"Don't worry, my boy," General Sierra or Colonel Pedro would answer airily, "that's already taken care of. Leave it to the Army."

I KNEW better than to retort "Which army?" and for the next ten minutes I'd have to listen to arguments about football tactics and the best way of dealing with recalcitrant referees.

It was then that Don Hernando Dias' name came up for the first time. I knew of him as one of the country's leading industrialists, but he had an equal reputation as playboy, racing-car driver and scientific dilettante. It surprised me to learn that he was one of us, for he was also a favorite of President Ruiz. Naturally I'd never met him; he had to be very particular about his friends, and there were few people who cared to meet *me* unless they had to.

I suspected that something was happening when I took my place in the football stadium on that memorable day. If you think I had no wish to be there, you are quite correct. But Colonel Pedro had given me a ticket and it was unhealthy to hurt his feelings by not using it.

There had been a slight delay in admitting the spectators; the police had done their best, but it takes time to search a hundred thousand people for concealed firearms. The visiting team had insisted on this, to the great indignation of the locals. The protests faded swiftly enough, however, as the artillery accumulated at the checkpoints.

Then a sweating band played the two national anthems, the teams were presented to El Presidente and his lady, and the Cardinal blessed everybody.

While we were waiting, I examined the program, a beautifully produced affair that had been given to me by the lieutenant. It was tabloid-sized, printed on art paper, and bound in metal foil that gleamed like silver. You could see your face in it, and I noticed a number of ladies using it to make last-minute repairs and adjustments. I also noticed that this "Special Victory Souvenir Issue" had been paid for by an impressive list of subscribers, headed by Don Hernando, who had himself, it seemed, presented fifty thousand free copies to our gallant fighting men.

If this was a bid for popularity, it seemed a rather naive one. And surely President Ruiz wouldn't let half his army be bottled up in this stadium for the best part of an afternoon . . .

These reflections were interrupted by the roar of the enormous crowd as play started. For the first ten minutes, it was a pretty open game and I don't think there were more than three fights. The Perivians just missed one goal; the ball was headed out so neatly that the frantic applause from the Panaguran supporters (who had a special police guard and a fortified section of the stadium all to themselves) went quite unbooed. I began to feel disappointed. Why, if you changed the shape of the ball, this might be a good-natured Idaho game.

THERE was no real work for the Red Cross until nearly half-time, when three Perivians and two Panagurans (or it may have been the other way round) fused together in a magnificent meleé from which only one survivor emerged under his own power. The casualties were carted off amid much pandemonium and there was a short break while replacements were brought up.

This started the first major incident: the Perivians complained that the other side's wounded were shamming so that fresh reserves could be poured in. But the referee was adamant, the new men came on, and the background noise dropped to just below the threshold of pain as the game resumed.

The Panagurans promptly scored, and though none of my neighbors actually committed suicide, several seemed close to it. The transfusion of new blood had apparently pepped up the visitors, and things looked bad for the home team. Their opponents were passing the ball with such skill that the Perivian defenses were as porous as a sieve. At this rate, I told myself, the ref can afford to be honest; his side will win anyway. And to give him his due, I'd seen no sign of any obvious bias so far.

I didn't have long to wait. A last-minute rally by the home team blocked a threatened attack on their goal, and a mighty kick by one of the defenders sent the ball rocketing toward the other end of the field. Before it had reached the apex of its flight, the piercing shriek of the referee's whistle brought the game to a halt. There was a brief consultation between ref and captains; the crowd was roaring its disapproval.

"What's happening now?" I asked plaintively.

"The ref says our man was off-side."

"But how can he be? He's on top of his own goal!"

"Shush!" said the lieutenant, obviously unwilling to waste time enlightening my ignorance. I don't shush easily, but this time I let it go and tried to work things out for myself. It seemed that the ref

had awarded the Panagurans a free kick at our goal, and I could understand the way everybody felt about it.

The ball soared through the air in a beautiful parabola, nicked the post — and cannoned in. A mighty roar of anguish rose from the crowd, then died abruptly to a silence that was even more impressive. It was as if a great animal had been wounded — and was bidding the time for its revenge.

Despite the heat pouring down from the not-far-from-vertical sun, I felt a sudden chill as if a cold wind had swept past me. Not for all the wealth of the Incas would I have changed places with the man sweating out there on the field in his bulletproof vest.

WE were two down, but there was still hope — a lot could happen before the end of the game. The Perivians were on their mettle now, playing with almost demonic intensity, like men who had accepted a challenge and were going to show that they could beat it.

The new spirit paid off promptly. The home team scored one impeccable goal within a couple of minutes and the crowd went wild with joy. By this time, I was shouting like everyone else and telling that referee things I didn't know I could say in Spanish. It was 1 — 2 now, and a hundred thousand people were praying and



cursing for the goal that would bring us level again.

It came just after half-time. The ball had been passed to one of our forwards; he ran about fifty feet with it, evaded a couple of the defenders with some neat footwork, and kicked it cleanly into the goal. It had scarcely dropped down from the net when that whistle blew again.

Now what? I wondered. He can't disallow *that*.

But he did. The ball, it seemed, had been handled. I've got pretty good eyes and I never saw it. So I cannot honestly say that I blame anyone for what happened next.

The police managed to keep the crowd off the field, though it was touch and go for a minute. The two teams drew apart, leaving the center of the pitch bare except for the stubbornly defiant figure of the referee. He was probably wondering how he could make his escape from the stadium, and was consoling himself with the thought that when this game was over, he could retire for good.

The thin, high bugle call took everyone completely by surprise—everyone, that is, except the fifty thousand well-trained men who had been waiting for it with mounting impatience. The whole arena became instantly silent, so silent that I could hear the noise of the traffic outside the stadium. A second time that bugle sounded —

and all the vast acreage of faces opposite me vanished in a blinding sea of fire.

I cried out and covered my eyes; for one horrified moment, I thought of atomic bombs and braced myself uselessly for the blast. But there was no concussion — only that flickering veil of flame that beat even through my closed eyelids for long seconds, then vanished as swiftly as it had come when the bugle blared out for the third and last time.

Everything was just as it had been before, except for one minor item. Where the referee had been standing, there was a small, smoldering heap, from which a thin column of smoke curled up into the still air.

What in heaven's name had happened?

I turned to my companion, who was as shaken as I was. "Madre de Dios," I heard him mutter. "I never knew it would do *that*."

He was staring, not at the small funeral down there on the field, but at the handsome souvenir program spread across his knees. And then, in a flash of incredulous comprehension, I understood.

SELDOM do we realize just how much energy there is in sunlight. I've since looked it up, and the experts say that more than a horsepower hits every square yard of the Earth. Those fifty

thousand well-trained fans with their tin-foil reflectors had intercepted most of the heat falling on one side of that enormous stadium — and aimed it all in one direction. Even allowing for the programs that weren't tilted accurately, the late ref must have absorbed the heat of about a thousand electric fires. He couldn't have felt much; it was as if he had been dropped into a blast furnace . . .

I doubt if even the ingenious Don Hernando realized exactly what would happen when he had talked his trusting friend, President Riaz, into lending him the necessary manpower. The well-drilled fans had been told that the ref would merely be dazzled out of action for the game. But I'm sure that no one had any regrets; they play football for keeps in Peruvia.

Likewise politics. While the game was continuing to its now predictable end, beneath the benign gaze of a new and understandably docile referee, my friends were hard at work. When our victorious team had marched off the field (the final score was

14 — 2), everything had been settled. There had been practically no shooting, and as the President emerged from the stadium, he was politely informed that a seat had been reserved for him on the morning flight to Mexico City.

AS General Sierra remarked to me, when I boarded the same plane as his late chief, "We let the Army win the football match, and while it was busy, we won the country. So everybody's happy."

Though I was too polite to voice any doubts, I could not help thinking that this was a rather short-sighted attitude. Several million Panagurans were very unhappy indeed, and sooner or later there would be a day of reckoning.

I suspect that it's not far away. Last week a friend of mine, who is one of the world's top experts in our specialized field, indiscreetly blurted out one of his problems to me.

"Joe," he said, "why the devil should anyone want me to build a guided missile that can fit inside a football?"

— ARTHUR C. CLARKE



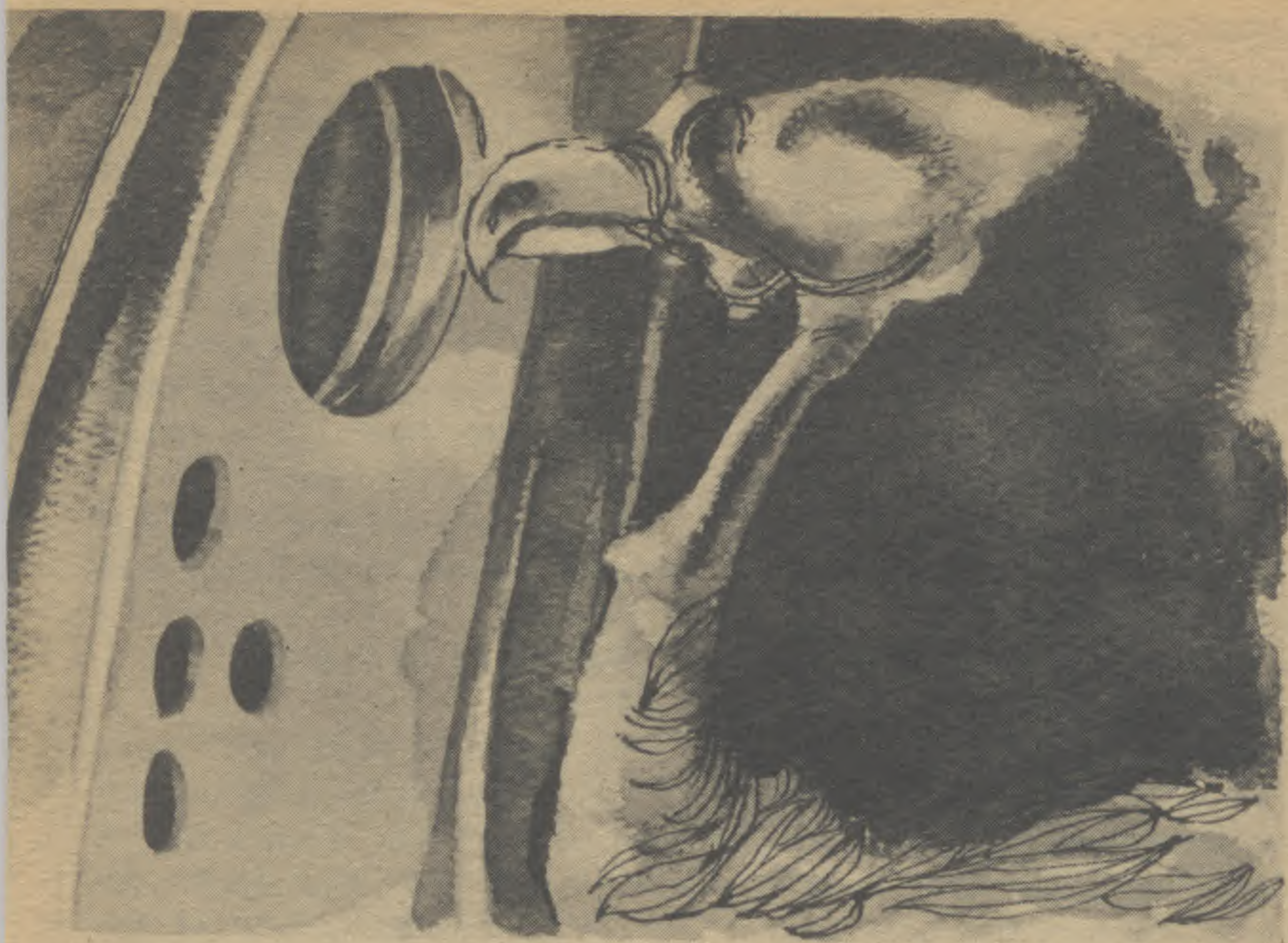


FROM AN

By ROSEL GEORGE BROWN

***You can't beat my Uncle Isadore — he's
dead but he's quick — yet that is just
what he was daring me to try and do!***

Illustrated by DILLON



UNSEEN CENSOR

UNCLE Isadore's ship wasn't in bad shape, at first glance. But a second look showed the combustion chamber was crumpled to pieces and the jets were fused into the rocks, making a smooth depression.

The ship had tilted into a horizontal position, nestling in the hollow its last blasts had made. Dust had sifted in around it, piling over the almost invisible seam of the port and filming the whole ship.

We circled around the ship. It was all closed and sealed, blind as a bullet.

"Okay," Rene said. "He's dead. My regrets." He coughed the word out as though it were something he had swallowed by accident.

"But how do you know?" I asked. "He might be in there."

"That port hasn't been opened for months. Maybe years. I told you the converter wouldn't last more than a month in dock. He

couldn't live locked up in there without air and water. Let's go." My guide had no further interest in the ship. He hadn't even looked to see what the planet was like.

I stood shivering in my warm clothes. The ship seemed to radiate a chill. I looked around at the lumpy, unimaginative landscape of Alvarla. There was nothing in sight but a scraggly, dun heather sprouting here and there in the rocks and dust, and making hirsute patches on the low hills.

I had some wild idea, I think, that Uncle Izzy might come sauntering nonchalantly over the hills, one hand in the pocket of a grilch-down jacket and the other holding a Martian cigarene. And he would have on his face that look which makes everything he says seem cynical and slightly clever even if it isn't.

"The scenery is dull," he might say, "but it makes a nice backdrop for you." Something like that, leaving the impression he'd illuminated a side of your character for you to figure out later on.

NOTHING of the kind happened, of course. I just got colder standing there.

"All right," Rene said. "We've had a moment of silence. Now let's go."

"I—there's something wrong," I told him. "Let's go in and see the—the body."

"We can't go in. That ship's sealed from the inside. You think they make those things so any painted alien can open the door and shoot in poisoned arrows? Believe me, he *has* to be inside if those outside ports are sealed. And he *has* to be dead because that port hasn't been opened in months. Look at the dust! It's a fourth of the way up the port."

Rene lumbered over to it and blew away some of the lighter dust higher up.

"See that?" he asked.

"No."

He groaned. "Well, you'll have to take my word for it. It's a rain-drop. Almost four months old. A very light rain. You could see the faint, crusted outline of the drop if you knew how to look."

"I believe you," I said. "I hired you because you know which side of the trees the moss grows on and things like that. Still . . ."

Rene was beginning to stomp around impatiently. "Still *what*?"

"It just isn't like Uncle Isadore." I was trying to search out, myself, what it was that struck me as incongruous. "It's out of character."

"It's out of character for *anybody* to die," Rene said. "But I've seen a lot of them dead."

"I mean at least he would have died outside."

"Oh, for Pete's sake! Why outside? You think he took rat poison?"

NOT until five years later did I find out what happened to the rest of good old Uncle Algernon's fortune.

I was stretched out on a gently undulating force-field in my interior patio, a huge, scarlet fan-flower tree sifting in the sunshine. Leda, her pink hair flowing down to her knees, was just emerging from the pool of grilch milk. She bent to an Aphrodite of Cnidos position.

"Perfect!" I said, and threw away my cigarene.

"Depart!" I told the robot, who came rolling in.

"But, master, it's the Cha'n of Betelgeuse, Lord of the Seven Planets and the Four Hundred Moons."

"Get dressed, Leda," I said regretfully. "We have company."

I'd never met him, but I knew he was one of Uncle Isadore's best friends and I felt obliged to see him.

The Cha'n had several meals

and four cigarenes, maintaining a courteous silence all the while. Then he loosened his belt, reached into his furry pouch and handed me a piece of copper scroll.

It was a check for five million dollars.

"You won," he told me. "Or lost, as the case may be."

I just looked at him.

"I was holding it in trust for you," the Cha'n explained, "in accordance with your Uncle Isadore's last wishes."

I blew a perfect smoke ring, let it float before my face for a perfect moment, and then asked, "And suppose I had lost? Or won, as the case may be?"

"I was to save it to try on your son, the gods permitting you have one."

"If necessary," I told him, "I'll try it on him myself, O Cha'n of the Seven Planets and the Four Hundred Moons."

"Call me Charlie," he said.

— ROSEL GEORGE BROWN

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But that dream of the African estate kept irritating the back of my mind. And the large, free sky of Alvarla was soothing to the eye, when compared to the little squares of blue I noted occasionally when riding the slidewalks of Brooklyn.

What *did* I want out of life, anyway? *Damn* Uncle Isadore. I'd never test 10:9 on job adjustment again.

I was still thinking when evening swept in fast, as it does in dry climates, and the birds began to wake up and climb out of the crater, presumably to forage for food.

"Wait!" I cried. "Isadore!"

I DREW out a lunch package and spread it to attract him. It attracted all of them.

I pulled out "The Dodo."

"Tell me what thy lordly name is / On the Night's Plutonian shore."

"Isadore," he volunteered, swallowing fast while I climbed aboard him.

"Take me back."

Then I realized I had made a mistake with the food.

"Go!" I cried. "Spaceship! More food!" He just stood there, his beak poking around the ground for crumbs.

But I had to get that skin spray washed off before twenty-four hours were up.

"Nepenthe!" I shouted desperately.

The dodo was off like a flash and didn't stop till we were back at the ship.

"You were gone quite a while," Rene said nonchalantly. "Find anything?"

"Enough to pay you off," I said. "And we'll make it five thousand because *I* found it. Stow this somewhere. It's perfume."

He did. "Find anything else?"

"Nothing that would interest you. I'll be ready to blast off as soon as I've had a shower."

Rene shrugged.

The perfume, when we returned to Earth, proved to be worth what he'd said it would be. A lot of people wanted to know where I'd gotten it. "The crops on Odoria," they said, "are entirely sewed up by Odoria, Inc."

"They certainly are," I always replied agreeably.

It took all I cleared from the perfume to put a down payment on a ship and hire an expert on fertilizing perfume flowers. But this time *I* wanted to run the show.

Mr. Picks shook his head sadly when I told him to replace me permanently.

"You have a great future ahead of you in studs and neck clasps," he said. "Why not take a little time and reconsider your decision? Or—"

"Nevermore," I answered.

dream I'd had since the one about succeeding Mr. Picks. Only very different.

I'd made a fortune cultivating perfume trees. My dream was full of perfume. Some of it came from the exotic plants of my African estate. Some of it was from a long-legged, pink-haired girl, the kind African millionaires have.

It was the sort of dream, I mused, unable to keep it in mood any longer, as large-minded men have. Men like — Uncle Isadore!

I sat up suddenly. Uncle Isadore — large-minded? Why hadn't he had the avuncular decency to leave me his fortune the usual way?

Why?

BECAUSE then he wouldn't be able to play penny-ante psychology and get me dreaming about wild schemes with perfume trees and African estates. That's why.

Or maybe there wasn't any fortune! Suddenly I understood why people smoke. It gives them something to do when they feel helpless.

If there wasn't any fortune, then I was hopelessly tied to the perfume trees. If Uncle Izzy had lost his last cent, it would be very like him to borrow enough from friends to finance a perfume tree scheme. And if he didn't make it to the planet he had in mind —

why, he'd make the planet he'd crashed on do.

Anyone else would have shot the birds for fresh meat. Anyone else would have seen immediately that Alvarla was the last planet in the Galaxy where perfume trees would grow.

Anyone else would have seen immediately that I was one of the minor, comfortable people in the world who likes the happy regularities of a little job and an assured, if limited, future. Anyone else would have seen I had the sort of personality that could not be changed.

But Uncle Izzy wasn't anyone else.

Why did I keep smelling the perfume from my dream?

I followed my nose out of the crater and found the snow melting around a water tank about four feet long and two feet in diameter — part of the ruined fuel system from Uncle Izzy's ship.

I dislodged it from the ice beneath and shook it. The perfume was so strong, as it unfroze, that it made me dizzy. And all that smell was coming from a pinhole.

There seemed to be half a gallon in it. Enough to pay off Mother's bonds and whatever I owed Rene, with a handsome sum left over for me.

I could go home and forget about perfume trees and Alvarla and Uncle Isadore.

was almost dawn and the last dodo had tucked his head into his feathers.

Daylight showed me four little trees, nothing like the usual scraggy vegetation of Alvarla. They *must* be perfume trees, I thought. But they were too young to have blossoms or pods.

I didn't go too near them, remembering what Rene had said.

And, remembering that, I began to figure out how they grew here.

THIS place was a little valley. No, a crater. Several feet deeper than my height, with sloping sides. The birds apparently kept it warm with their body heat, plus the heat the rocky sides would store. Since it was a crater, the winds wouldn't reach it. The crater made a basin to catch the snow which I could see beginning to melt at the edges and ooze down the slope.

The birds provided more than ample fertilizer and Uncle Izzy had apparently trained at least one of them to cultivate the soil under the trees.

I climbed out of the crater to see that I was indeed in the regions of snow. To the north were huge drifts, and far off loomed towering glaciers.

To the south, the hills tapered off from white to spotted brown.

That was the reason for Uncle Izzy's crazy setup. Rene and I

would never have come across this crater in an ordinary search. Of course, the setup needn't have been *quite* so crazy. That was the personal equation of which Uncle Izzy was so fond.

The trees would, I assumed, poke their heads up over the crater as they grew, reaching toward the cold, and finally getting the frostbite to fill their pods properly.

At two thousand dollars an ounce.

I had neglected to ask Rene how many pods a tree could be expected to produce or how big the pods were. But, say, half an ounce in each pod and a conservative fifty pods on each tree.

A hundred thousand dollars.

I slid back into the crater, sat leaning against a somnolent dodo and ate a lunch package with a cupful of melted snow.

All sorts of thoughts were jostling my brain.

But I was bone-weary. I hadn't slept since we hit Alvarla and the ride last night had been a tremendous strain, because I wasn't in the habit of getting any exercise at all.

Therefore, I fell asleep in mid-thought.

It was the noon sun that woke me. I wasn't just warm. I was *hot*.

And I was very reluctant to let go of my dream; I kept grabbing at the tag ends of it with both hands. It was the most exciting

Picks, was reassuringly assured.

Then, out of nowhere, into the picture galloped a yellow-skinned monster astride a huge, white bird. It turned out to be me and I tumbled off the bird, crying, "Mr. Picks! I don't know what came over me!"

But I was answered only by a multitude of squawks, rustles and scratchings.

The bird was home.

I COULD almost see vague forms. The darkness was beginning to give a little. I was warm, itchy and uncomfortable under whatever it was that Rene had sprayed on me.

Warm?

Perfume trees?

All I could smell were bird roosts.

I stood up, finding my limbs weak, trembling and painful. First, I glanced at my watch. Five hours terran time since we left the ship. At fifty miles per hour, we'd have gone two hundred and fifty miles.

If we'd gone due north, as the bird started out, we must be in the snow zone. And I was warm!

I switched my flash around. All I could see were birds. There seemed to be hundreds of them. I couldn't tell which one was my bearer.

"Where is the perfume?" I bawled.

All I got was squawks. Some of

the birds were, in fact, standing on one foot and tucking their heads away.

It was growing lighter. The birds were going to bed.

Feverishly, I pulled out Uncle Izzy's old volume of poetry.

Brushing from my mind a vision of Mr. Picks in a state of shock and another picture of Uncle Isadore snickering triumphantly, I stood on that desert land enchanted — on that home by horror haunted, and solemnly read "The Dodo" to a colony of wingless birds.

My dodo identified himself at the proper place, but I kept on, waiting for something to show me my inheritance.

"Then methought the air grew denser," I read.

"Perfume from an unseen censor!" a bird croaked from the back row.

"Where?" I cried, pushing my way through the birds crowding around me in various stages of roost and curiosity.

"Then," I repeated, "the air grew denser."

"Perfume," the bird now in front of me said, "from an unseen censor."

He began to scratch at the ground assiduously under one of four dim shapes about the level of my eyes. Then he yawned gapingly, gave up and went to sleep.

I sat down to wait, because it



"Don't be stupid," Rene said. "He can't carry both of us and you'd be a fool either to go alone or stay here alone."

"As a tribute to my deceased uncle, I'm going to be a fool."

I stuck my flashlight into one of my many pockets and climbed onto the huge bird's back. The down beneath his outer feathers was as soft and strong as heavy fur. I dug in with my hands and feet, my head braced against the thickened part of his neck.

He started off with a lurch that brought my stomach out of hiding. I kept my eyes squeezed closed. I couldn't have seen anything, anyway. Not even the impossible creature that was rushing through the darkness carrying me, for all I knew, straight to damnation.

The night rushed past my ears in a wild keening and it crossed my mind to wonder what Mr. Picks, my supervisor, would say if he saw me now.

I had a sudden vision of Mr. Picks, even more neatly dressed than I always was, with middle-cost neck clasp and stud discreetly shining from a plain, square-edged bag shirt and dun suit. I pictured him opening a refined little box and holding it two feet under the customer's eyes with a gesture of faint, unconscious supplication. A comfortable, warm, happy picture in which my place, one counter behind Mr.

they could get plenty of frost."

"That's all they'd get. Where's the warm, moist climate to germinate in? Where's the parasitical Rhns to cultivate their soil? The Rhns couldn't exist without their Gleees and the Gleees can't exist without—never mind. The only place perfume trees can grow is on Odoria and that's why the perfume is worth two thousand dollars an ounce."

"I have never heard of anything," I informed him, "that spelled 'Uncle Isadore' so exactly. He always said, 'If it can't be done, I can do it.' Well, there's only one way to find out. Surely there's something on the ship I can wear."

"You mean you're going out into that frozen inkpot after that idiotic bird?"

"That's exactly what I mean."

"For Pete's sake! You're as brainless as the bird is!" But I think, for all his attitude, he was curious, too.

HE began to spray me with something. "Close your eyes and mouth. If you don't wash this off with soap and water in twenty-four hours, you'll die. But it sure keeps in the body heat."

I stuck the book in my pocket for good luck, and Rene handed me a gun, some lunch packages, an antibiotic kit and a water purification kit.

"All right," I said, pocketing

them, "but it can't be far. Uncle Izzy wouldn't have gone more than a day's journey."

"Then why haven't we smelled the perfume? And why would he have gone through all this rigmarole when he must have known you'd search that far?"

I didn't know why.

I pushed the door open. The bird hopped out and I realized how easy it would be to lose him from the small, round glow of my flash.

He looked curiously at me, as though expecting something further.

I looked curiously at him, wondering where he would lead to.

Then he was off. There was no question of following him. That big, awkward bird ran so fast that in a few minutes we could no longer hear the beat of his huge claws on the rocks, even in the perfectly still, dry air.

"How fast do you figure he's going?" I asked Rene.

"How the hell would I know?"

"Roughly."

"Roughly? Maybe fifty miles an hour."

"But that's incredible!"

"The big point-tails on Aldebaran kappa can do eighty with a native on their backs."

"Ah!" I said. "So *that's* it! Maybe tomorrow night . . ."

But we could hear the drumming of the returning dodo.

pages until I found "The Dodo." Maybe there'd be something in that.

"Listen to this, Rene," I said, "and see if you catch anything I might have missed."

Rene looked discomfited, but he didn't stop up his ears.

When I came to the part, "Tell me what thy lordly name is/On the Night's Plutonian shore . . ." the dodo looked up and said, "Isadore."

Clearly, this was it, although I couldn't recall that any of the questions in the poem were to the point.

I got to, "On the morrow he will leave me/As my hopes have flown before./Then the bird said . . ."

"Ask me more," said the dodo without missing a beat.

I read on, getting excited. "Quaff, oh, quaff this kind nepenthe,/And forget this lost Lenore./Quoth the Dodo . . ."

"Give me more," he supplied, pointing his beak at the alcohol tap.

I gave him another cup and continued, sure that he must be going to say *something* relevant to Uncle Izzy's fortune.

"Is there—is there balm in Gilead?—Tell me, tell me, I implore!" Quoth the Dodo . . .

"Probably not," the dodo said, breaking the Grilch Hop rhythm at last, "but there are perfume trees on Alvarla."

"Perfume trees!" Rene shouted.

"That bird's lying. It's impossible."

"Shut up!" I yelled at him. "The poem's not over."

I READ on, somewhat ashamed of having to say such inhospitable words to a dodo who had been, after all, cooperating with me.

"Take thy beak from out my heart,/And take thy form from off my door!/Quoth the Dodo . . ."

"I was just leaving," the bird said, and struggled to his feet and went and stood by the door expectantly.

I got up. "Wait!" I commanded the bird, who couldn't do much else because the door was closed. "Do you know what perfume trees are, Rene?"

"Yeah, I know what they are, and they don't grow on this planet. You can take my word for it. They need a warm, moist soil to germinate in. They need to have their soil cultivated every day for a year. They die fast on contact with any sort of industrial fumes. They die in captivity, like some wild animals. They die if you sweat on them. They die if you breathe on them. They need to start off warm and get colder every month until they form their flowers. Then they need a frost for the pods to fill with the perfume, along with the seeds."

"There aren't any industrial fumes here," I pointed out, "and

I addressed the bird. "Sir," I began, and caught myself, "or perhaps madam, can you say anything else?"

"Nepenthe," the bird said firmly.

I shrugged and drew a cup. The dodo lifted the cup and drained it in one smooth gesture. This, as it turned out, was the only thing it seemed to do smoothly.

It began a wild attempt to scratch its head with one claw and remain upright. Then, abandoning all dignity, it rolled to its side and scratched furiously to satisfaction. After that, it began what looked like a hopeless attempt to right its awkward body, legs struggling in the air and back bumping around the ship.

I couldn't help remembering Uncle Izzy after a meal, slim and suave, lighting up a tapered, perfectly packed cigarene and blowing out one round, shapely smoke ring that hovered before his light, sardonic grin like a comment on his thoughts.

An uncomfortable comparison. I shook myself to life.

I righted the bird, no small problem, for he weighed almost two hundred pounds.

"Well," Rene finally said, coming out of his mood, "now that you have this bird, what are you going to do with it?"

"I had thought it might lead us to Uncle Izzy's fortune," I explained.

THE bird obviously had no such intention. It was getting ready to take a nap.

"A night bird," I told it reprovingly, "shouldn't take a nap in the middle of the night."

"All you're proving is that he has no self-respect," Rene pointed out. "Why don't you look to see if he's got a note tagged to his leg or something?"

I did. He didn't.

"I think this whole thing is crazy," Rene said, "but since he's a talking bird, you might ask him a few questions. Maybe he's trained to say something else."

"Where is Uncle Izzy's fortune?" I asked, when I had tugged at the dodo's feathers until he opened one eye.

He closed it.

"Do you have a message for me?"

He drew away from me irritably and closed the eye again, ruffling down into his feathers.

"He may be keyed to respond to certain phrases. Try your uncle's name — he obviously knows that," Rene suggested coldly, wanting no part of this but unable to hold down the suggestion.

"My name," I screamed at the somnolent dodo, "is Isadore Summers."

He reared back and pecked the hell out of me.

I picked the book up off the floor and flipped through the bent

soon as we had eaten and fed the converter. I hydrated a package of crackers so that they were full-sized but not soggy, broke them into pieces and tossed them out.

I admit I felt a little embarrassed.

I sat there in the chill quiet, on this ugly, alien world, reading "The Dodo" by the light of a miniature flash, so as not to disturb Rene.

Pretty soon I began to feel creepy. "The Dodo" is a ghastly poem. There's an insidious morbidity about it. It had sounded merely funny the first time I read it.

Now, the more I read it, the more I began to hear strange, impossible creakings and sighs, which might or might not be due to temperature changes.

The night outside was a deep, cold cup of darkness where no human thing moved.

There was a knock at the door.

I dropped the book and flashlight. Rene was up like a cat. He didn't turn on the light.

"Who's there?" he shouted.

There was a scratching noise at the door. Then a voice croaked, "My name is Isadore Summers."

I REACHED a trembling hand for the door.

"Wait, you fool!" Rene cried. He picked up the flash and got his gun. "Stand behind me and keep your hands off your gun. I know

when to shoot and when not to shoot. You don't."

"If it's Uncle Isadore . . ."

"I tell you you've got to leave it up to me, if you want to get off this planet alive. Now stand back and keep your mouth shut, no matter what happens."

He kicked the door open and stood back and to one side of it. "Come in with your arms up!"

There was a sort of rustling sound and in walked a huge, white, wingless bird.

"My name," the dodo repeated, somewhat plaintively this time, with a glance toward the lunch compartment, "is Isadore Summers."

I couldn't help it. I rolled all over the ship with laughter. Rene looked a little shamefaced, tossed his gun onto the rack and punched the lighting on.

Obviously the dodo recognized our lunch compartment from familiarity with Uncle Izzy's ship. Then he looked at the alcohol tap that led from the fuel conversion. "Nepenthe?" he begged.

I hesitated. "Isn't there something," I asked Rene, "about corrupting the natives of a primitive planet?"

But Rene was sitting on his bunk, his jaw slack. "This is the first time I've ever been made a fool of by an alcoholic bird."

"If it's just a bird, of course. Like a parrot . . ."

"Some people crack on alien planets," he said. "I have a padded room in my ship. You'd be surprised how often I have to use it."

I told him about the poem I found in Uncle Izzy's book. "We look for a white bird," I said. "Or perfume."

"You're nuts," he pointed out with some justice, because he hadn't known Uncle Isadore. "How do you know these changes weren't made by somebody else a long time ago? Maybe this ancient printer printed it wrong and had to change it afterward."

"I don't think they were that primitive back then."

But I didn't know what "back then" meant or how primitive ancient printing was. All I knew for sure was that, as the poem stood, it sounded as if somebody had loused up a perfect Grilch Hop rhyme. And Uncle Izzy knew I was a Grilch Hop expert in Middle School and this was the only *real* Grilch Hop rhythm in the book. What's more, Uncle Izzy could depend on me to go over that book in painstaking detail because a studs and neck clasp man has to be good on details.

"**A**LL right," I said. "You look your way and I'll look my way."

"We're not looking any more any way today," Rene said, emerging from Uncle Isadore's ship

loaded down with removings. "It'll be night and below freezing in half an hour."

"What do you think," I asked, "a dodo would like to eat?"

"A *what*?"

"The birds. I want to put something out to attract them. Crackers or something?"

"I think you're crazy. If you have any idea of sitting outside to wait for them, you'll freeze to death. Not only that, there's no moon. You wouldn't be able to see your hand in front of your face."

"How do the birds see?"

"Maybe they aren't night birds. Maybe they migrated somewhere else."

"And if I use a light, it might scare them away," I mused. "Well, maybe I'm not supposed to wait outside, anyway."

Rene went in and switched on the heat and lights.

"Leave the outside port open," I said.

"Why?"

"So the birds can knock."

"Can *what*?"

"Well, it's possible," I said defensively. "It won't hurt anything to leave it open."

"All right," he consented, curving his mouth around unpleasantly, "just to show you what a jack-ass you are."

Rene had the heat turned low, for sleeping, and the lights off, as

and "raven" with "Dodo"?

Furthermore, it had not struck me the first time I read the poem quickly that there was anything odd about a bird being named "Isadore." People who keep pet grilches frequently name them after famous Reed players and Isadore is a common name.

On the other hand, it was my Uncle's name. And the word "Dodo" didn't rhyme as it should.

I got out a magnifying glass to examine the ancient print. Sure enough, it had been tampered with. The print looked so odd to me, anyway, I hadn't noticed the part that had been changed. But it was obvious under the glass that "Dodo" had been substituted for a word of almost equal length. The same with "Isadore."

I went over the whole poem now, carefully, to see which words had been changed. There weren't many. "White" in a couple of places. "Dodo" and "Isadore" wherever they occurred. An "o" in the line "Perfume from an unseen censor." "S" in the line "Wretch," I cried, 'Isadore hath sent thee . . .'

SITTING back, I thought about what I had read. It made no sense at all. Was I to look for a white bird, "grim, ungainly, ghastly"? And what if I found him? Why was he like a raven? What was this perfume from an unseen

censor? I could picture the ghost of Uncle Isadore, knowing his financial imagination, as the "unseen censor" because he always criticized me. Was I to look for perfume? Did he have a fortune in perfume stowed somewhere? It seemed to me it would take an awful lot of even the most expensive perfume to comprise a fortune.

I decided to start with the bird. I went outside Rene's ship and looked around. No birds.

"Rene!" I called. He was still looking through Uncle Izzy's ship. "Have you seen an ungainly white bird around?"

"What!" he snapped, sticking an indignant face out of the door.

"I guess you haven't. Can your woodsy lore tell if there are birds on this planet?"

"Obviously," Rene said. "I don't know why you can't find your own spoor. I noticed the droppings immediately."

"Where are the birds?"

"How the hell would I know?" But he couldn't contain his special knowledge. "They're probably night birds," he said.

"Oh, yes." It checked. "Wandering from the Night's Plutonian shore."

He looked at me suspiciously. "You ever had a nervous breakdown?"

"I have *not*. I test 10:9 on job adjustment and 10:8 on life adjustment."

bending over. And the pages keep flipping and make you lose your place.

Still, I read it all the way through. It wasn't too bad. Not like Edgar Guest, of course, who was the only ancient author I liked in General Studies. But I found there was a sort of Grilch Hop beat to it that reminded me of the Footlooses I used to go to in Middle School. I grinned. It was funny to think of now.

I found no clues in the book. The only thing to do was read it again, more carefully.

I NOTICED there was one poem with a *real* Grilch Hop beat. I thought suddenly of Sally, my regular partner at the Footlooses. She was very blonde and she affected a green crestwave in her hair, pulled over her forehead with a diamond clip. She was a beauty, all right. But she was a little silly. And she had that tendency to overdress.

No, I sighed, she wouldn't have done for a studs and neck clasp man. But I couldn't help wondering where she was now and what she was like now. Did she remember me, and did she think about me when she heard that song we used to dance to, because it was about a girl named Sally?

*Once I knew a girl named Sally
Met her at a Footloose rally*

I began humming the Grilch Hop tune to the ancient poem in Uncle Algy's book. It was fantastic how closely it fitted, though, of course, the words in the poem were plain silly.

But imagine finding a poem with a perfect Grilch Hop beat before anybody even knew what a grilch was! Before Venus was even discovered. Jump on both feet. Hop three times on the left foot. Jump. Hop three times on the right foot. The rhythm was correct, right down to the breakaway and four-step at the end of each run.

It was while I was singing this poem to a Grilch Hop tune that I noticed the clue. The poem was named "The Dodo." And the rhyming was very smooth until I came to the lines:

*"Though thy crest be shorn and
shaven,
Thou," I said, "art like a Raven
Ghastly, grim, and ancient Dodo,
Wandering from the Nightly
shore;
Tell me what thy lordly name
is
On the Night's Plutonian shore."
Quoth the Dodo, "Isadore."*

Now the author had gone to a lot of trouble in the previous verse not to break the Grilch Hop rhyme scheme. He made "thereat is" rhyme with "lattice" and "that is." Why did he follow "shaven"

In that case, we look for a key. Or he might have a block of Eretrevium buried somewhere. Your guess is as good as mine."

"If he's dug up the ground," Rene said, "I'll recognize the spot. But that'll mean walking over every inch of ground for a day's journey around. Or more, if he did any overnight traveling."

"Not Uncle Izzy," I said. "He wouldn't be at all likely to spend a freezing night out on Alvarla, even for a good joke."

"Radar equipment's in perfect shape," Rene said, shifting his activities to another segment of the ship's equipment. "I wonder why he didn't leave it on so we could locate him easier. Not that we had any trouble. Or why he didn't continue broadcasting for help until he died . . . Mind if I take some of the equipment?"

"You haven't been exactly generous with me."

"I intend to subtract its value from the cost of supplies and milage on my ship. I never said I was generous, but, by God, I'm honest."

RENE slid out the compartment of lunch packages, dumped them on the floor.

"All unopened," he was saying disgustedly. Then he picked up a heavy, square object with sharp corners, open on three sides. "What the hell is this?"

"A book," I informed him.

Rene opened it. "Hey! A real, antique book! Must be worth at least a thousand! Look at the size of that print! You can read it with the naked eye, like an instrument panel! Well, here's a little piece of your fortune."

He tossed it to me and went on examining the lunch packages. He didn't trust me to help him because *I* wouldn't be able to tell if they'd been opened and something inserted.

I hung the book by the covers and let the pages flip open. Nothing fell out. I sighed. I'd have to go through the whole damn thing.

"I'm going back to your ship and read in comfort," I told Rene.

"You're no help here anyway," he said, putting the lunch packages in a large plastic bag he'd found somewhere. "No use letting these go to waste."

I didn't tell him I had the clue to Uncle Isadore's fortune in my hand. He didn't know Uncle Isadore, so he wouldn't have believed me.

Nothing is more uncomfortable than reading an antique book. There is no way to lie back and flash it on a screen or run the tape over your reading glasses while you lie prone and relax. You have to *hold* it. If you try to hold it lying down, your arms get tired. If you put it down on a table to read, your neck gets tired from

He shrugged and shouldered the inside door open.

He came out, his face a study in perplexity. "Not here!" he said. "This is the first time I've been wrong in fifteen years!"

"That's because it's the first time you've been up against Uncle Izzy. He must have closed the port behind him the same way I opened it."

I climbed through the door, feeling immensely relieved. I realized then what had really been worrying me. If the gods had abandoned Isadore at the last, what did they have in mind for the rest of us mere mortals?

I kicked at my mind irritably, knowing these were young thoughts. But then I am young, I explained to myself.

THE inside of the ship was neat and empty. Stuck on the instrument panel with a vaccup was a note, in Uncle Izzy's flowery script.

My boy. I have died of boredom. Do not look for the remains. I have hidden my body to avoid the banality of a decent burial. I bequeath you my entire fortune. Find it.

Rene groaned. "I suppose now you want to look for the body."

"No. If he says it's hidden, it's hidden. But it would be a little

silly to go off without finding his fortune, wouldn't it?"

"Looking for buried treasure wasn't in the contract," Rene pointed out. "You'll have to make it worth my while."

"Another five thousand," I said.

"Make it ten. Payable if I find it."

"Suppose I find it?"

"Don't be ridiculous. You'd be a fool to take two steps on this planet without me."

He was right, of course. And if we left, I wouldn't get anything. I thought of Mother living by the bells at a Comfort Park. "All right," I said.

"What form was his fortune in?" Rene asked. "Money? Bonds? Polarian droplets? It would help to know what I'm looking for."

"I have no idea," I confessed. "Ordinarily it would take a computer to figure out Uncle Isadore's financial affairs. But he'd have been perfectly capable of selling out everything and taking his entire fortune along with him for some new project."

Rene had skillfully unscrewed the instrument panel and he lifted it off and began poking inside and removing mysterious bits of machinery. "That makes it harder. You don't know whether he sold out or not?"

"I have no idea. He might have all his money piled in the locker of the Whist Club of Sirius beta.

advertised — that keeps them a luxury item, you know."

"So your Uncle Isadore pasted one of them on the port button."

"He didn't have to paste. All he had to do was stick it on. All I had to do was line up the mate to it and the attractive force pushed the button."

"That's very neat," Rene said. "But why the hell didn't he just leave the port open? He'd hardly do this sort of thing with his dying gasp."

"I'm not sure," I admitted. "As a matter of fact, I wonder why he radared *me* if he really wanted to be rescued. He had plenty of friends who could rescue him more reliably."

I HAD an inkling of what had been on Uncle Isadore's mind. Although Uncle Izzy had had three — or was it four? — wives, he'd very carefully had no children. And it had occurred to him at an advanced age to take an interest in me.

He'd sent me through two years of general studies and reluctantly let me specialize in studs and neck clasps.

"You were a grilch hop expert in Middle School," he had told me. "How come you're getting so stuffy?"

"Because I can't be an adolescent all my life, Uncle Isadore," I had replied stiffly. "I would like

to get into some solid line of work and be a good citizen."

"Phooey!" he'd said. But he had let me do what I'd wanted. It was because of this that I had felt duty bound to answer his call for help.

I'd *not* felt duty bound to take all the opportunities he'd tried to force on me when I got out of school. Mining the semi-solid seas of Alphard kappa. Fur trading on Procyon beta. And a hundred others, all obviously doomed to failure unless there was one lucky chance.

"But I'm *happy* here with my little room and my little job," I kept telling Uncle Isadore.

"You only think you're happy because you don't know any better," he kept telling me.

Only, now that he was dead, he seemed to have me where he wanted me. Now that nothing could matter to him any longer.

"Maybe he was getting senile," Rene suggested.

"Uncle Izzy always said he'd rather die than — he *did* die," I replied, suddenly recalling myself to the present and the open outside port of the ship. I realized how reluctant I was to go in. It was one thing to admit Uncle Izzy was dead — I cherished no great affection for him — but it was something else to have to face his dead body.

"Would you mind going in first?" I asked Rene.

Now I don't like adventure. I don't like strange planets. All I've ever asked of life was my little four-by-six cubby in the Brooklyn Bloc and my job. A job I know inside out. It's a comfortable, happy, harmless way to live and I test 10:9 on job adjustment.

All the same, it was a thrill to discover a clue that Rene would have thrown away if he'd been the one looking.

I tossed it casually in the air and showed it to Rene.

"Know what that is?" I asked.

"Slug for a halfdec slot machine?"

"Nope. Know what I can do with it?"

He didn't say.

"I'm going to open Uncle Izzy's ship from the *inside*."

RENE lighted a fresh cigarette from the old one and let the smoke out of his nose. It gave rather the impression of a bull resting between picadors.

"Can you show me, on the outside, approximately where the button is that you push on the inside to unseal the ship?" I inquired casually.

"I can show you exactly."

He pointed to a spot next to the entrance port. I wet my finger and made a mark in the dust so I could get it just right. Then I found a sharp stone and cut around the edges of the lead. As I slipped off

the back half of the coinlike affair, I clapped it over the finger mark.

The entrance port swung open.

If I'd had a feather, I would have taken great pleasure in knocking Rene over with it.

"It'd be worth a million dollars," he breathed, "to know how you did that."

"Oh, a lot less than that," I said airily.

"Well? Explain!"

"Uncle Isadore had it set up," I told him, using the same patiently impatient tone he used on me. "He knew I'd recognize that lead coin. There was a cuff link in it."

"A cuff link!"

"A studs and neck clasp man has to know about cuff links, too. This happens to be an expensive cuff link, but worth only about a year's salary, not a million dollars. They're held together by a jazzed-up electromagnetic force rather than by a clasp. This force is so strong it would take a derrick to pull them apart. The idea is to keep you from losing one. If you drop it to the floor, you just wave the mate around a little and it pops up through the air."

"How do you get them apart?"

"Just slip them sideways, like a magnet. You can sheathe them in lead, like the one I found, to cut down the attraction. This is how they're packaged. You don't know about them because they're not



staying a week," I told Rene as authoritatively as I could manage. "You haven't actually *showed* me Uncle Izzy's — er — corpus delicti, so I have you on a legal technicality." I didn't know whether or not this was true, but it sounded good.

"All right, we'll stay." Rene spat the sentence out onto the ground. "But if you think I'm going to do any more looking, take another guess."

He tramped back into his own ship, leaving the outside port and the pressure chamber open.

If only Uncle Izzy had done that!

I went over his ship inch by inch, feeling with my hands, to be sure there was no extra door that might be opened. Rene would have laughed, but I was beginning to build up antibodies against Rene's laughter.

I got the bottom part of the ship dusted off and found nothing.

I pushed open the door of Rene's ship and asked him for a ladder.

"You'll have to pay for it," he warned. "Once it's open, I can't carry it in my ship and I'll have to get another."

"Okay, okay! I'll *pay* for it."

HE handed me a synthetic affair that looked like a meshed rope, wound tight, about the size of a Venusian cigar.

"This is a ladder?" I asked in-

credulously, but he had shut the door in my face.

I slipped the cellophane off and unrolled it. It seemed to unroll endlessly. When it was ten feet long and four feet wide, I stopped unrolling. Sure enough, it hardened into a ladder in about ten minutes. It was so strong I couldn't begin to bend it over my knee.

I set it against the side of the ship and began to investigate the view ports. The first two were sealed tight as a drum.

The third slipped off in my hands and clattered over the side of the ship onto the rocks.

I was almost afraid to look through the "glass" beneath. I needn't have been. I could see absolutely nothing. It was space-black inside.

I went back to Rene's ship for a flashlight. He was unimpressed by my discovery.

"Even if you could break the glass, which you can't," he said, "you still couldn't get through that little porthole. Here's the flash. You won't be able to see anything."

He came with me this time. Not because he was interested, but because he wanted another cigarette and never smoked in the ship.

He was right. I couldn't see a darned thing in the ship with the flashlight. But I found something—a little lead object that looked like a coin. It had rolled into a corner of the port.

I went around to the other side of the spaceship, mostly to get away from Rene for a moment. I'm only a studs and neck clasp man and Rene had twenty years' experience on alien planets. So he was right, of course, about the evidence. There was no getting around it. Still . . .

I circled back around to where Rene was smoking his first cigarette since we left Earth. His face was a mask of sunbaked wrinkles pointing down to the cigarette smack in the middle of his mouth.

"Uncle Izzy wouldn't die like an ordinary mortal," I said. "He'd have a brass band. Or we'd find his body lying in a bed of roses with a big lily in his hand. Or he might even disappear into thin air. But not *this*." I waved a hand toward the dead ship.

"Look," Rene said. "My job was to find your Uncle Isadore. I've found him. We can't get inside that ship with anything short of a matter reducer, which I *don't* happen to have along since they weigh several tons. You'll have to take my word for it that his body's in there. Now let's go home." He managed to talk without moving the cigarette at all.

"YOU said a week," I reminded Rene.

"I said if I didn't find him in a week, then he wasn't there. I've found him. I'm sorry if he was your

favorite uncle or something."

"As a matter of fact, I never liked him. He was — frivolous. He never had a job. He thought life was a big game."

"Then how come he got so rich?"

"He always won."

"Not this time, brother! But if he's not your favorite uncle, why all this concern? You can take my word for it he's dead and you've done your duty."

"There are two things that bother me. One is curiosity. I just don't believe Uncle Izzy died in an ordinary fashion locked up in a spaceship. You don't know him, so you wouldn't understand. The other thing I'm concerned about is — well, his will."

Rene barked a couple of times. I had learned this indicated laughter. "I figured what you were really after was his money."

Under my yellow overskin, I could feel myself coloring. That wasn't at all the point. I'd mortgaged Mother's bonds to finance this trip, confident that Uncle Izzy would make it good when we found him. If I couldn't get Mother's bonds out of hock, she'd have to live out her life in a Comfort Park. I shuddered at the thought. Uncle Isadore must have known that when he radared for help. He must have provided some way . . .

"You said a week and we're



GALAXY'S

5 Star Shelf

THE MIND CAGE by A. E. van Vogt. Simon & Schuster, N. Y., \$3.50

VAN Vogt, master of the tortuous plot, goes through torture here to prove it. Or, as one of his present characters mutters confusedly, "Wheels within wheels within wheels." More interior wheels might have been mentioned without overstating the case.

WW III brings the rise of a dictator over most of Earth known as the Great Judge. He is alienated from his military leader, Group Master David Marin, by

the latter's defense of a seditious scientist who advocated changes in the weird group-free-enterprise social setup.

Trask, the scientist, has been sentenced to death, but custom permits him complete freedom for one week prior to execution. Having secretly perfected a technique for transposing personalities from one body to another, he springs it on Marin the day after being sentenced.

Marin awakens to find himself in the other's body. From there in, the E. Phillips Oppenheim atmosphere soupens.

To lead the scheduled invasion of a minor country, he has to disguise his Trask body as himself, a nice touch. Then he has to find Trask with his own body and re-transfer or be executed within the week. Meanwhile, an intelligent super-computer, the Brain, purportedly destroyed during the war, is secretly engaged in throwing its weight around.

What follows is less clear — I wouldn't attempt to summarize it.

Van Vogt, though, still is highly imaginative and his patented jig-saw puzzles are good fun, even though pieces persistently remain missing.

THE ANTS by Wilhelm Goetsch. University of Michigan, \$4.50

WHICH savant do you read? Solomon, "Go to the ant, thou sluggard: consider her ways and be wise," or Mark Twain, "Ants are the dumbest of all animals"?

There's something to be said on both sides. It's a fact that no test of ants has ever determined true reasoning power of understanding of cause and effect. However, ants possess memory and can, to a limited extent, put that memory to use.

Goetsch explodes certain myths, notably the cozy notion that ants domesticate aphids and other insects.

They do not carry their cows

to and from pasture but exploit them at their grazing grounds and carry in dying "cattle" for meat.

As reluctant host to a bustling colony of marauders, I am glad to have proof that ants are our competitor and possible successor among social creatures. I thought it was just me they were against.

THE BEST FROM FANTASY AND SCIENCE FICTION, edited by Anthony Boucher. Doubleday and Co., Inc., N. Y., \$3.75

BOUCHER'S seventh anthology from F&SF is more restrained than hitherto in the use of slapstick, so the more sober products show up to better advantage.

Possibly the best of the book is Chad Oliver's "Between the Thunder and the Sun." A civilization is dying on a backward world because of ecological imbalance. Altruistic individuals must give unwanted and thankless help in defiance of a UN decree forbidding contact for any reason with lower-scale civilizations.

Other good efforts are contributed by Ward Moore, Arthur C. Clarke and Poul Anderson. Mildred Clingerman, particularly, offers a gem of a horror chiller.

THEY RODE IN SPACE SHIPS by Gavin Gibbons. Citadel Press, N. Y., \$3.50

“THEY” are two Americans, Daniel Fry and Truman Bethurum. “We” are those who haven’t and are looking to “Them” for proof. Gibbons is an Englishman who, himself convinced, is putting their experiences into print.

Fry, a mechanical engineer, once worker for Aerojet General at White Sands. The first half of the book chronicles his alleged meetings with an ET. The level of interest and credibility is far higher than in the latter half, dealing with Bethurum’s meetings with a tiny female skipper of a space scow.

Unfortunately, Gibbons’ sole evidence of verity is the ridicule to which Fry and Bethurum have subjected themselves in defense of their stories. A pretty frail support from which to hang a strong belief, it would seem.

TROUBLED STAR by George O. Smith. Avalon Books, N. Y., \$2.75

SMITH proposes a comic situation as his premise in this frothy bit from the late TWS.

A Galactic Survey Team has goofed by reporting our system devoid of intelligent life. As a result, Sol is to be made variable to serve as a marker beacon on a new galactic star route. Fortunately, one of the road gang discovers our thought emanations through the use of a *menslator* and finds that

the most popular leader on Earth is TV’s Dusty Britton of the Space Patrol. Obviously, this is the man to kidnap and acquaint with the Galactic Plan for old Sol so that he can prepare our people for their enforced thousand-year sleep, during which Earth is to be moved into orbit around another star.

But before this, Dusty had chickened out on an actual exploratory flight to Venus. This fact comes to public light when he is picked up on a yacht in midocean in company with a **GIRL** and **LIQUOR** after indoctrination by the Galactic Team. If his chances of influencing people were small before, now he can’t even make friends.

Smith eventually gets Dusty and Earth out of the mess, even though his hero does occasionally step out of character by acting intelligent.

LUCKY STARR AND THE MOONS OF JUPITER, by Paul French. Doubleday and Co., Inc., N. Y., \$2.75

THE prolific Isaac Asimov, and his alter ego, Paul French, have come up with the best of the Lucky Starr juvenile series. The action is taut, the mystery sustained, the science credible.

Councilman Starr and his sidekick Bigman are sent to Jupiter IX to investigate leakage to the

Sirians of secret information concerning Earth's experimental anti-gravity ship. Of course, we know they'll succeed in their mission, but it's a pretty tight squeak nonetheless, and Isaac French milks the situation for all its thrills, while painlessly imparting scientific lore and a code of ethics.

**THE FIRST BOOK OF
MAMMALS** by

Margaret Williamson.

**THE FIRST BOOK OF
ARCHAEOLOGY**

by Nora Benjamin Kubie.

**THE FIRST BOOK OF
SUBMARINES**

*by J. B. Icenhower, Capt. U.S.N.
Franklin Watts, N. Y., \$1.95 each*

THE above three books are excellent follow-ups to last month's Popular Science *There's Adventure* series that inaugurated the monthly "Junior Education Corner." Whereas those were experimental do-it-yourself books devoted to the physical sciences, these are informative volumes that will satisfy a knowledge hunger concerning more abstruse subjects.

The most striking common denominator is the straightforward presentation. There is no talking down. *Mammals* first answers, "What is a mammal?" and then proceeds to populate every area of the world with the incredible variations in size, shape and struc-

ture of this great animal group.

Archaeology supplies the young neophyte with information concerning the ancient civilizations and digging lore of the modern archeologist. The science in its modern form is only a hundred years old, but the reader will stand amazed at the deductive techniques employed. Not even Sherlock Holmes could deduce more from water stains, bone fragments and shards.

Capt. Icenhower's book brings underwater routine to life and, in a short history, he notes the curious fact that many successful submarines existed before their incorporation into naval fleets.

**THE WONDERFUL WORLD
OF ENERGY** by Lancelot Hogben. Doubleday & Co., N.Y., \$2.95

LITTLE is required to excite the interest of the young, but it's quite a trick to sustain it. The text of Hogben's book is rather advanced; fourteen-year level up. The profusion of excellent demonstrative and provocative illustrations, though, qualifies it for use with a much younger age group, one that can appreciate the text in increasing degree. In fact, so well is the book designed, words and pictures can be mutually exclusive or intimately complementary.

—FLOYD C. GALE

PERSONNEL PROBLEM

By H. L. GOLD

Illustrated by WOOD

*Mng engnr wanted: duties lt,
gravity ditto, unlt'd opptnty
advcm't—as anythg but engnr!*

DOWD caught hold of a stanchion and braced himself — it was easier to be forceful when you didn't float off the ground with every word.

He said persuasively: "You can still change your mind, Eggleston. Where are you going to get another job like this? Look, you've

been getting ten shares — how about if we make it twelve? The committee will go along. That's eighty thousand dollars a year, man!"

"No," said Eggleston.

"Be reasonable! Ceres isn't as bad as all that. As asteroids go, it's in a class by itself. Maybe

we're a little cramped, but we're still getting organized — why, next year we'll have it fixed up so you can get annual leave on Earth and—"

"No!" said Eggleston, even more positively than before.

Dowd blew through his nostrils, once, hard, a snort of anger and exasperation. Being general manager of the miners' co-op that had the Ceres franchise was an unrelied headache. Here he was promising this nincompoop Eggleston twelve shares — he himself had only three, and an able-bodied vacuum-miner, risking his life and his health every day, got only one. And all because Eggleston had an engineering degree!

"It isn't the money," Eggleston said. "You know what it is."

"No," said Dowd grimly. "I don't know."

EGGLESTON looked longingly at the open port of the ship. He hesitated and set down his bag — eight hundred and fifty pounds of personal belongings and equipment. It would weigh that much on Earth; here it was only a feather-light balloon.

He said tiredly: "I've told you dozens of times. I don't see why I'm bothering to tell you again. You didn't understand it before and you won't understand it now."

"Try me!" said Dowd. "Maybe I'll finally get it!"

"All right. There's no work for me here, Dowd. And who wants to live inside a chunk of rock?"

"Two thousand of us do!"

"Then do it!" snapped Eggleston. "Not me! I'm tired of never seeing the sun — except through filters, after I put on a spacesuit. I'm tired of breathing last year's air. I'm tired of living with two thousand miners and their squalling brats, all cooped up in an oversized mine shaft. And when it comes right down to it, Dowd, I'm tired of you! That's why I'm leaving — right now, at fourteen twenty-two hours on June third, mean solar time, and you can take your twelve shares and—"

"Okay, okay," Dowd broke in. "So long."

He slipped his shoes back into the magnetic galoshes that held him to the floor and clumped, teetering, away.

Behind him, he heard the shrill mechanical whine of the lock motors, sealing off the chamber where the rocket ship lay, and then the pumps that sucked the air out of the giant lock. When the lock was empty, the outer panels whined open, the noise coming shrilly through the rock; there was a sharp, shattering jar as the rockets started — then silence.

Dowd didn't even look around. It wasn't very interesting any more. Eggleston wasn't the first engineer to depart in a huff. He

was the seventeenth, and the whole process was becoming unpleasantly familiar.

Dowd took the elevator down and reported failure to the rest of the managing committee. They accepted the news without comment; they were getting used to it too.

Manson, the gray-haired supply manager, was the nearest to cheerful of the lot — it wasn't his problem. Except that, of course, production was everybody's problem; if there wasn't enough production, there wasn't enough pay. Still, he was able to say: "Well, that's that. What do we do now?"

Dowd said glumly: "Call a general meeting. We'll have to put it up to the whole membership."

Traffic Manager Pickett scowled. "Put what up? We haven't got an engineer and we're not likely to get one. What's to discuss?"

Dowd shrugged, wishing he had the guts to call the ship back and join Eggleston in leaving this place. "The only thing we can do, as I see it, is try to get along without an engineer for a while. But that's a matter of Policy."

Manson nodded. Policy required a general meeting; everybody knew that. He reached over, picked up the P.A. microphone, flipped it on and spoke into it: "Attention, everyone. Attention, everyone. General meeting in the Common at —" he glanced at his watch — "fifteen hundred hours exactly."

THE committee was down at the mouth, but the miners didn't seem perturbed. It was a kind of holiday for them. There wasn't much doing inside the 488-mile diameter of Ceres, and even a general meeting, that invariable precursor of trouble, was better than nothing.

The miners and their families came up out of the rock-built "houses"—really cubicles. *Really*, said the more disgruntled inhabitants, caves. They were laid out in geometrically straight streets in the great, high-ceilinged chamber under the surface of the asteroid. They were not notably pretty or comfortable, but they would do. Enormous sun lamps hung, violet-glowing, on spindly cables from the ceiling; giant street ventilators sucked out the old air and pumped in — well, the same air, but dried, cooled, de-carboned and re-oxidated.

It sounded like the noise of wind in trees — or, anyway, that's what Dowd was in the habit of saying in his wheedling letters to prospective members of the co-op. Actually, what it sounded like was ventilators.

As general manager, Dowd led the committee toward the Common at the center of town. It was the community's showplace — synthetic grass, imitation trees, even a small pool that used to have the unpleasant habit of creeping

up over its margins and drenching everything around. This was due to a combination of the high surface-tension of water and the low gravity in the interior of Ceres; and the only thing that could be done about it was to roof the thing over with glass, which more or less spoiled the effect. From a distance, though, it didn't look bad, particularly when you observed the surrounding shops, the theater, the restaurant.

Dowd couldn't see any grass at all this time, not even the glassed-over pool. Every square foot of the Common was covered with people. Dowd climbed to the bandstand — once there really had been a band there, and dancing on the green; but that hadn't worked too well either, because the low gravity made even the best dancers prone to fall all over their partners.

He picked up the loud-hailer and addressed the crowd. In a few brief words, he told the miners what they already knew, and outlined the problem they had already faced: "We don't have an engineer. We aren't likely to get one. We have to try to get along without one; and that's the size of it. Now," Dowd went on, "I'll entertain a motion that we proceed on our own power."

He got his motion and it was passed unanimously — if you could call it that. At least, there weren't any "nay" votes, but there were

also only a scattering of "ayes;" and if the expressions on the faces of the two thousand miners and their families had been ballots, the whole Ceres Mining Co-operative would have faced a veto that afternoon.

The committee went back to its work. The miners returned to their homes. The whole community kept its fingers crossed, fearing the worst—

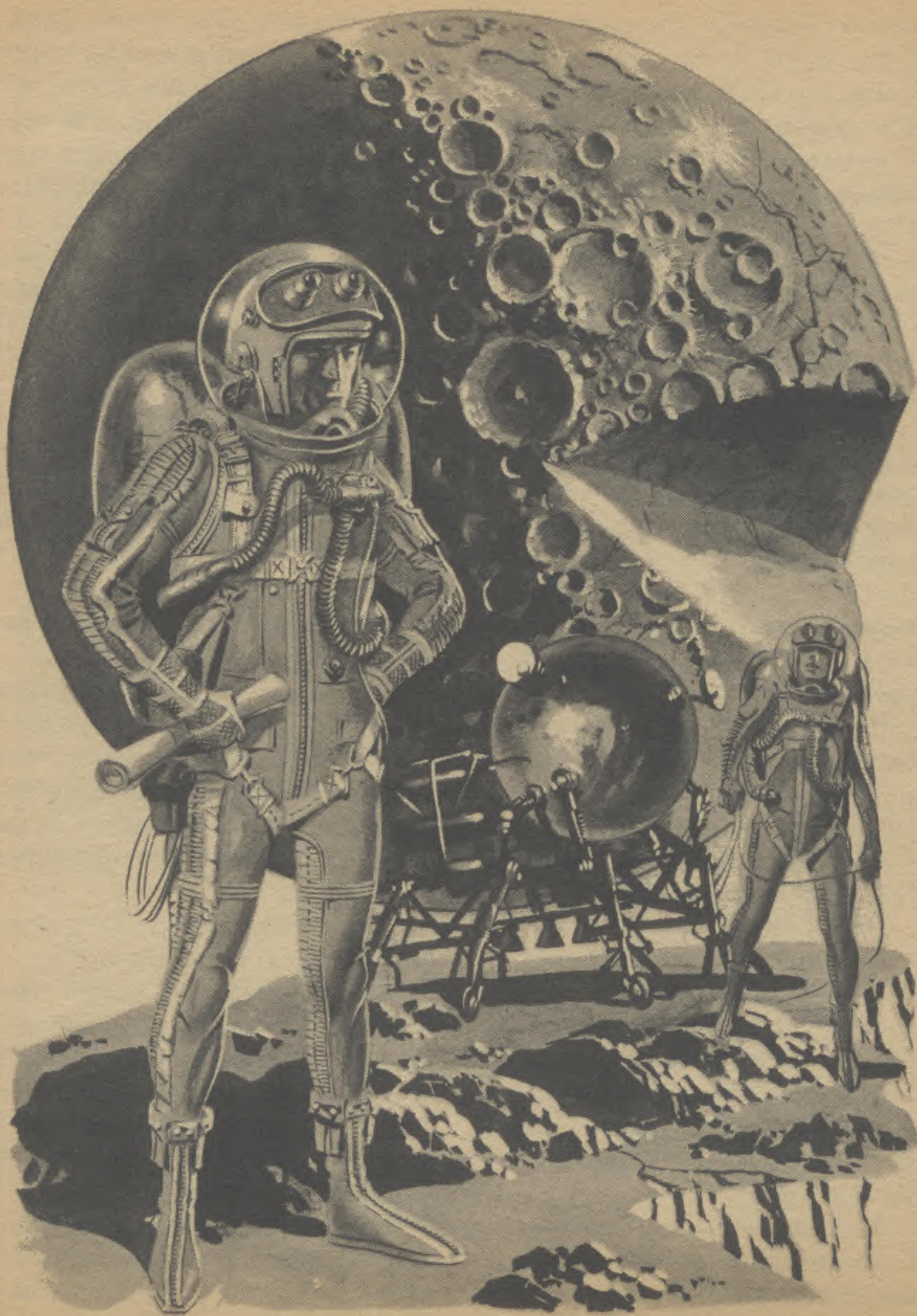
And, two days later, an over-size blast went off and one-nineteenth of the asteroid of Ceres was blown away into space.

FIRST concern was casualties. Dowd raced into a pressure suit and headed a party that grappled and clung its way around the mottled rock surface of the asteroid to where the accident had occurred. They found the miners — sheepish enough, pinioned under what, on Earth, would have been tons of rock, some of them; but unhurt.

The second concern was the airtightness of the living quarters — and that, thank heaven, thought Dowd, was still all right. The blast had occurred seventy miles from the town-cavern.

The third concern was — the Solar System Conservation Society.

Dowd returned to the main operations area and boarded a scout rocket with Manson and



Simon Brodsky, the accountant. They jettied a few miles out into space, arrested their relative motion and took a good long look.

Asteroid Ceres looked like a cake with a big chunk hacked out of it.

"Oh, my God," groaned Brodsky. "Now we're in for it."

Dowd said shortly: "I know."

Manson said: "What happened? Did you find out?"

Dowd shrugged. "They had the charge all figured, and then they got worried it wasn't enough, so they added more. They were so busy arguing, they tied in with the stored explosive and the whole business went up. Lucky they weren't all killed — maybe all of the rest of us, too."

"You can say lucky if you want to," Brodsky complained. "I'm not so sure. This is going to cost us our franchise, you know."

Manson said: "You mean the Solar System Conservationists?"

"What else? Our contract said we couldn't do anything that would affect the external appearance or the orbit of Ceres. Believe me, this does both. *Look at it!*"

They looked, in an atmosphere of gloom. "Curse them," Dowd said angrily. "It's a bloody big slice, all right."

It was. The raw cut was as deep and wide as a sea, and the undiffused sunlight cast a space-black shadow that made it seem

even deeper and more naked among the jagged asteroidal peaks.

"There's no doubt about it," Dowd added. "Palomar will spot that next time they look this way — if a liner from one of the outer planets doesn't beat them to it."

"Wait a minute," said Brodsky thoughtfully. "There *aren't* any liners this time of year — none of the big planets are in opposition."

"Well?"

"And Palomar isn't going to bother with us till it has to. Listen," Brodsky went on, growing excited, "what if we get that piece and stick it back?"

Dowd stared. "Do *what?*"

"You heard me," Brodsky insisted. "Why not?"

Dowd looked at him in astonishment. He began to laugh — until he realized that Brodsky was serious, and then he got annoyed. "That's crazy. We're miners, Brodsky. We dig out; we don't put back."

Manson interrupted: "No, listen to him. Why shouldn't we?"

Dowd rubbed his square jaw, squinting down at the asteroid. "Well — I don't know, maybe it's an idea. Certainly we couldn't be any worse off—"

"Let's try it," Brodsky urged eagerly. "What can we lose?"

It was a very good question and they all knew the answer. "All by ourselves," Dowd mused. "No engineer to tell us what to do; no

experience in this sort of thing . . . Well, you're right, Brodsky. We don't have any choice, do we?"

WHAT had happened to Ceres was this: A wedge of rock had flown off into space, like an axehead hurled off the handle; it was getting farther away every second, and it had picked up a fair amount of spin. Moreover, the remaining eighteen-nineteenths of Ceres had acquired, by natural law, an equal and opposite thrust, seriously disturbing its own orbit.

The ore freighter department head checked in. "Yeah, we've got the ships," he said. "We've got eight that we can use for towing, which is enough. We can kill the spin, sure. Don't worry about that. We'll get the chunk back to Ceres, right over the cavity. Then it's up to the ground crews to take over. Of course," he added, "we'll need an engineer to check our acceleration and bearings and all that, you know. Say, when is the new engineer going to—"

"Thanks," Dowd said bitterly. "Thanks a lot. Just stand by. I'll let you know."

The loading section foreman was less confident, but he grudgingly agreed that the problem of getting the chunk back down in place wasn't impossible. He dragged Dowd to his drafting office and showed him the plans his section had made. They all gathered

around his desk, arguing over a diagram.

"See," the foreman said, "I guess we could winch it down, like. From the bottom and sides, you understand? It might mean losing a few winches underneath, but I guess it's cheaper than losing the franchise."

"Hold on," Dowd said sharply. "You *guess* you can winch it down? It *might* mean losing a couple of winches?"

"Well, what do you expect me to say?" the foreman demanded righteously. "I'm no engineer."

"Damn it," exploded Dowd, "you've been doing this kind of work for twenty years! All Eggleston would have done is check over your own diagram. Why can't you do that?"

The foreman said stubbornly: "Stress factors, things like that—what do I know about them, Dowd? It *looks* all right, but how can I say for sure?"

Dowd pulled his lips over his teeth and sought out the head blaster.

The blaster pointed out: "I ain't an engineer, but the way it looks to me, we can fuse the wedge in place once the loading section gets it down. See, like we did when we put in the cargo lock for the rockets, remember?"

Dowd asked: "And do you think fusing it would hold it in place permanently, allowing for

orbital spin and gravitational—”

The blaster spread his hands. “How do I know? Now if I were an engineer—”

“That’s what I thought,” said Dowd. “I’ll let you know.”

DOWD called the Managing Committee meeting to order in the board room. He locked the door and started the tape recorder; for several minutes, it recorded only his profane remarks about lack of guts and self-confidence.

“Hold it, Dowd,” Manson said at last. “We’ve most of us dug all our lives — all but Brodsky. That’s why he doesn’t know the problems in a job like this. There are all kinds of tricky things involved.”

“Like what?” Dowd savagely wanted to know.

Manson snapped: “If I could tell you that, I’d be an engineer.”

Dowd drummed his fist on the desk. “Ah, what’s the use? Sometimes I wish this wasn’t a co-op. If I was a real boss, I’d just give the orders — and they’d damn well do what they were told, engineer or no engineer.”

Pickett glanced up at him thoughtfully, and then returned to what he was doing — paring his cuticles with a little knife. He said: “You can’t, Dowd. I’d quit. I don’t blame the men; I wouldn’t work on anything as ticklish as that hunk of rock without an engineer. That’s the way it is. On routine

operations, maybe we could get along — but this isn’t routine.”

“Oh, the hell with it,” Dowd said in disgust. “Here, let me tell you something. You know why we can’t keep an engineer? *Because we don’t need one.* Our boys have done everything that *can* be done with our equipment so often that they can do it in their sleep — yes, even like dragging a hunk of Ceres back to where it belongs! It’s only the same things they’ve been doing, on a slightly larger scale. They only want an engineer to yes them because they don’t have confidence. That’s why we’ve lost seventeen engineers, one after another — they want work, not just a soft berth.”

“So?”

“So — I don’t know.” Dowd spread his hands, baffled. “I don’t blame the engineers. When a man gets a degree, he wants to use it. Not just look at radar soundings — which are read for him — and approve charge formulas — which are all worked out for him — and read loading schedules and shoring diagrams and — hell, the entire job! That’s why we can’t keep them. And that’s why we don’t need them, even now.”

Pickett didn’t look up. “No engineer, no job,” he said softly, and the rest of the room murmured agreement.

Dowd sat down heavily and stared at the ceiling. It was an impasse.

BRODSKY cleared his throat. "You know," he said, "my sister Molly has a boy, David. He wanted to be a violinist, but she made him go to mining callege."

Manson lifted his head questioningly. "He's probably got some nice job in a nice place," he grumbled. "You don't think he'd quit some other place just to—"

"Oh, he doesn't have a job yet," said Brodsky. He counted on his fingers, nodding. "Yes, he's just getting out of school now. I remember because my niece Leah got married when he was in his sophomore year and—"

"All right! All right! What are you getting at, Brodsky? You think you can get the kid before somebody else signs him up?"

Brodsky looked surprised. "Yes."

Manson looked interested. "What do you think, Dowd?"

Dowd banged the table. "Brodsky," he roared, "why didn't you say something about this before? Get to it, man! If he's a relative, maybe there's a chance he'll stick—anyway, even if he only stays long enough to get the damned asteroid stuck together again, that's something! Look —" he figured rapidly — "we'll get one of the oreboats to haul you to where you can pick up a liner. Pickett, you get on the radio and find out who's in port. Manson, you get the freight section ready to take Brodsky in. Move!"

"Right!" Manson smiled. "Then we've got a chance. With a mining engineer, we can do the job."

"Yeah." Suddenly Dowd sat back again. "But only the job," he said wearily. "Then we're on our own. Relative or not, he'll never stay."

"Oh, he'll stay," Brodsky promised. "I guarantee he'll stay."

AS usual in unusual situations, the membership of the Ceres Mining Cooperative was in the community square when Brodsky brought his nephew, David Bookbinder, down from the landing area.

David was a tall boy, not entirely filled out yet, with light hair that had four great waves in it—a feature that the miners' wives and daughters approved—and a long, sensitive face. He wore strong contact lenses — a feature that the minors approved; it was evidence of studiousness.

Brodsky proudly introduced him first to the managing committee and then to the foremen of the various crews, who took him around to meet the members and their families. David held a violin case in his left hand and shook with his right, smiling gently and looking a little overwhelmed. He had to show his handsome diploma over and over to the awed and respectful miners.

Dowd, Brodsky, Pickett and

Manson stood near the bandstand and watched the lad answer questions, moving shyly from one group to another.

"They like him," said Down.

Brotsky nodded, pleased. "He was worried about that. I told him once in a while, say a couple of times a month, he could give a violin concert here. That would keep him happy. And who knows, people might enjoy it."

"They'll enjoy *anything* he does," Dowd said enthusiastically. "Speaking of keeping him happy, we ought to work that out in detail."

Brotsky waved his hand. "Later, later. First we put Ceres back together. Then we worry about that."

"Oh, that's no problem now," Dowd assured him. "We're all set. The wedge is being towed back—the crews began that the minute we got your spacegram, saying you and David were on the way. Now he's got the data from the other sections to go over—but that won't take long."

"No, that's true," Brotsky agreed. "He'll be glad to look it over."

"And then what?" asked Manson. "Do we lose him like the others? I'll tell you what. I'm for voting him fifteen shares, Dowd. Why not? We could build him a big rock house down in some nice section of town — put in a bar, a ballroom, whatever he wants. And

we can get him a little electrocar—maybe even a chauffeur, if he wants—"

"Sure!" added Pickett. "Listen, why not get a little private rocket? It could be his—let him go to Mars once in a while. You know? Maybe the rest of us could use it when he didn't mind—but it would be his all the same. And we can put through that leave plan right away—what the devil, why not give the guy a couple months a year on Earth or Mars? With pay, naturally. And the town looks a little drab — we could spray-paint it. And a mist machine up at the ceiling to give us a blue sky and white drifting clouds—"

"You're crazy!" cried Dowd, outraged. "He's just an engineer, you idiots! No engineer is worth it!"

Manson scowled blackly. "You say that?" he demanded. "After we've messed ourselves up trying to get along without one?"

Brotsky was polishing his glasses. "Gentlemen," he begged, looking distressed. "Please, we don't have to go to all that trouble. He's just a boy. The place is fine — maybe we could dress it up a little, like you say. But for us, not for David. David will stay, I assure you, and he'll be happy with the usual ten shares and our old engineer's quarters."

Wonderingly, Pickett said: "You've got more influence with your relatives than me with mine."

"Sure," said Brodsky. "Say, Dowd, can I talk to you for a minute?"

Dowd shrugged. The others nodded and walked off toward the group around the colony's new engineer.

DOWD said suspiciously: "Well?"

Brodsky cleared his throat. "The fact is," he said, "David wanted to be a violinist, as I told you. But he went to mining college to please his mother—"

"As you told me. I know. What about it?"

"Well," Brodsky said hesitantly, "there was just a little trouble about his grades." He took a petty cash voucher out of his pocket. "I have here—"

"Wait a minute! What are you trying to tell me, Brodsky? He's an engineer, isn't he? I saw his diploma with my own eyes!"

"Oh, yes," Brodsky assured him. "Of course you did. Everybody did—a beautiful diploma, right? Nice sheepskin. Nice lettering. That's what this bill I have here is—five dollars for parchment, forty dollars hand lettering. I also," he added, "invested quite a lot for rosin and violin strings and things

like that, but I want to pay for for those myself. Call it a present for my nephew."

"A graduation present?" Dowd asked, more than a bit baffled.

"Well—" Brodsky was a little embarrassed — "not exactly. You see, there was the thing with his grades. So I promised him that here things would be all right—he could practice his fiddle as much as he wanted; all we'd want from him is that once in a while he had to look over whatever the foremen brought him and say yes. Easy? He thought so. But it's worth it to us."

Dowd swallowed hard. "You mean—" he started, and had to pause to swallow again. "You mean he isn't really—"

Brodsky shrugged. "A technicality. He's been to school? He's got a degree? What more does he need?"

"But—but suppose the data's wrong! Suppose the foremen make a mistake and—"

Brodsky was shaking his head. "Never!" he said positively. "Besides, David isn't entirely ignorant. He may not be an engineer to other engineers, but to a miner, believe me, he's an engineer."

— H. L. GOLD



Thing of Beauty

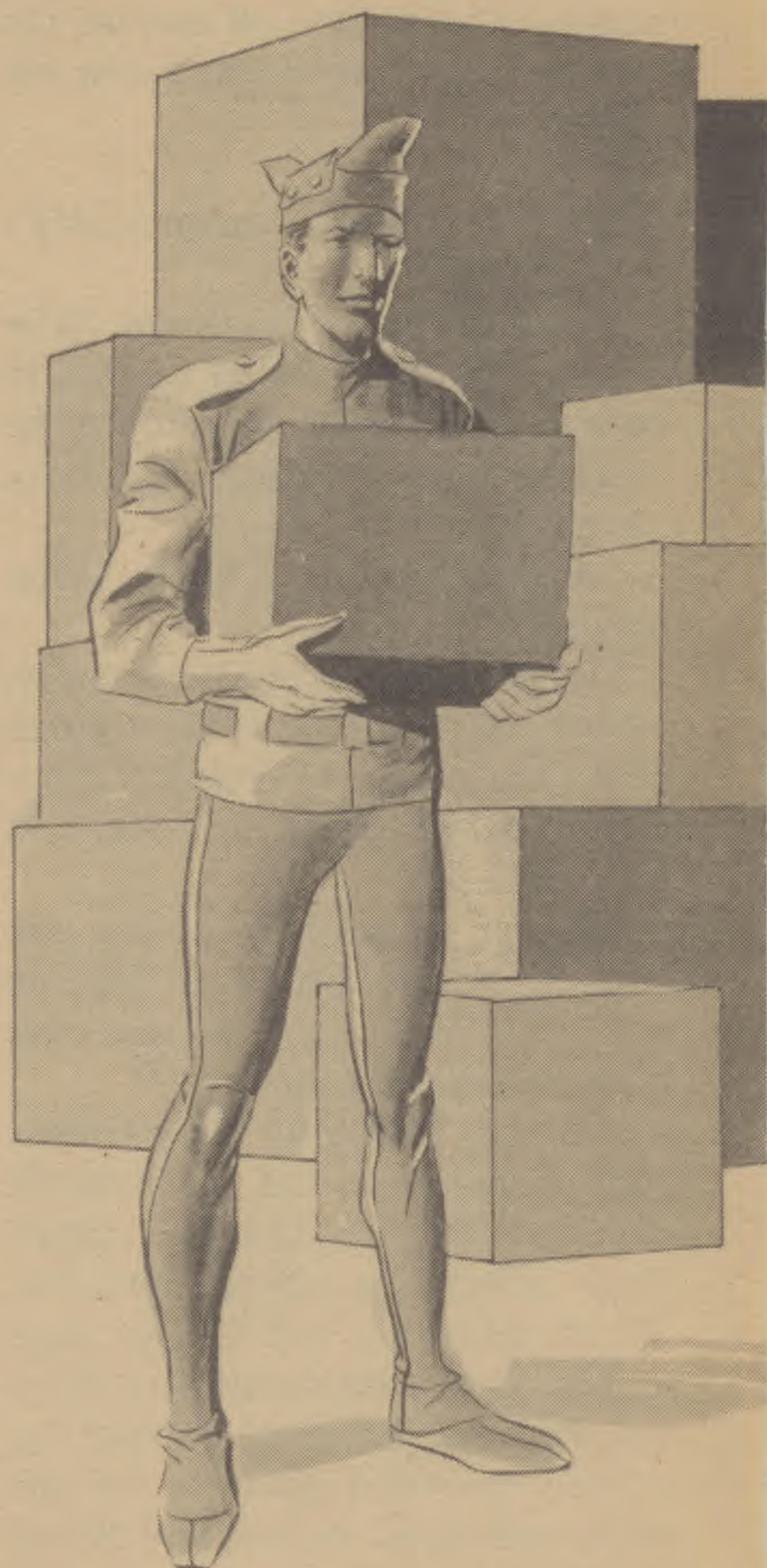
By DAMON KNIGHT

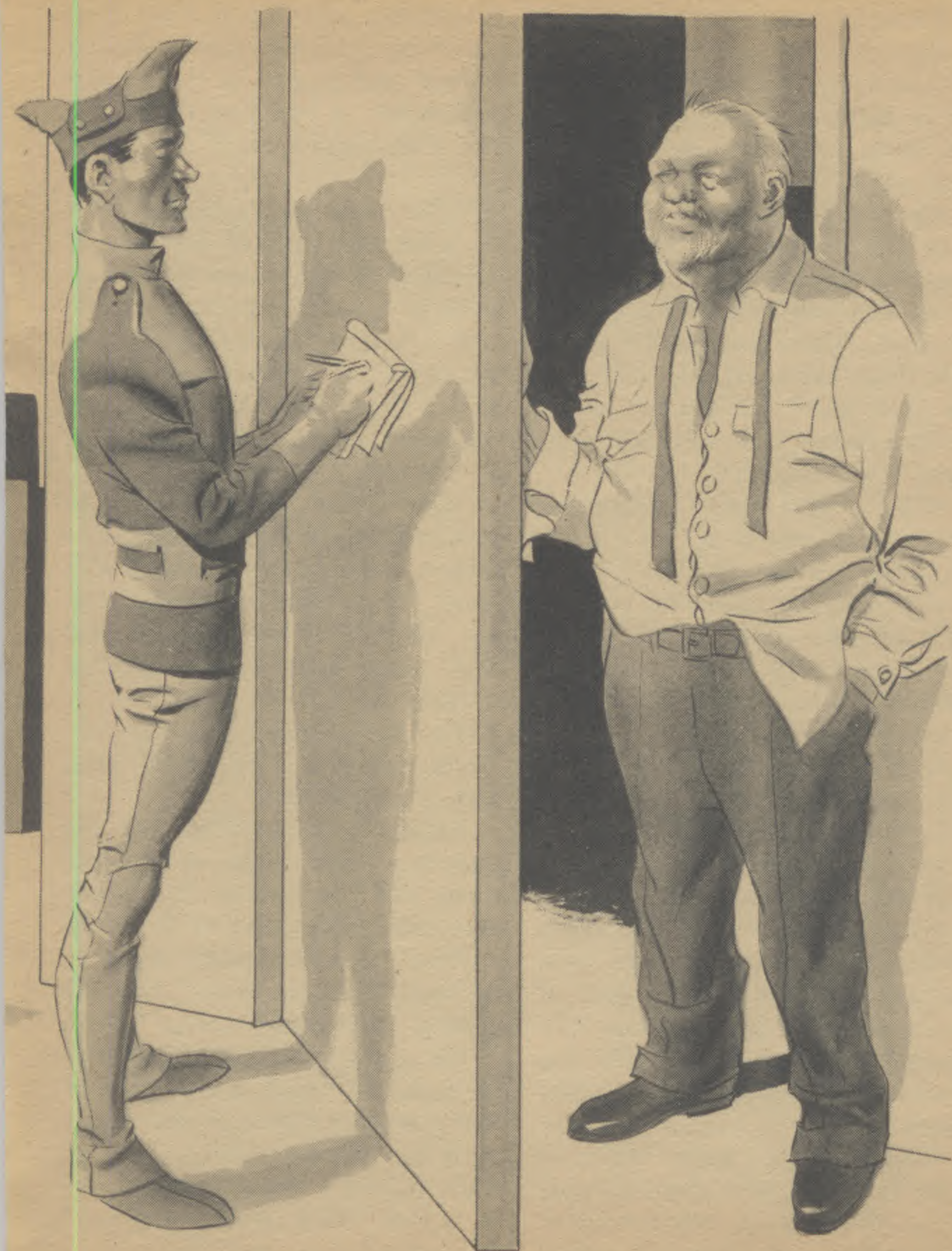
Illustrated by WOOD

*There was the gizmo
that could put Gordon Fish
in the chips — or
right in the soup —
and he didn't know
which he was ordering!*

THERE was a time slip in Southern California at about one in the afternoon. Mr. Gordon Fish thought it was an earthquake. He woke up confused and sullen from his midday nap, blinking fiercely, pink as a spanked baby's behind, with his sandy-yellow beard and eyebrows bristling. He got off the sofa and listened. No screams, no rumble of falling buildings, so probably it was all right.

He heard a knock.





Squinting uneasily, Fish went to the door. He had left his glasses on the table, but never mind; it might be a client, or even an investigator from the city, in which case —

He opened the door.

A slender man in purple was standing there. He was small, hardly an inch taller than Gordon Fish. He said, "Three twenty-two and a half Platt Terrace?" His face was an oval blur; he seemed to be wearing some kind of tight uniform, like a bellboy's—but purple?

"That's right, three twenty-two and a half, this is it," said Fish, straining to make out the fellow's salmon-colored face. He caught sight of some other people standing behind him, and a shadowy bulk, like a big box of some kind. "I don't know if you—"

"All right, fezh, bring it in," said the man, turning to speak over his shoulder. "Bung, did we have a time finding you!" he said to Fish, and pushed his way into the living room. Behind him, other men in tight purple clothing came staggering under the weight of boxes, first a big one, then two smaller ones, then a *really* big one, then a clutter of smaller boxes.

"Listen, wait, there must be some mistake," said Fish, dancing out of the way. "I didn't order—"

The first man in purple looked at some papers in his hand. "Three

twenty-two and a *half* Platt Terrace?" he said. His voice sounded slurred and angry, as if he were half drunk or had just waked up, like Fish himself.

FISH was unreasonably irritated. "I tell you I didn't order anything! I don't care if — You walk in here, into a man's home, just — Listen! You! You get that out of there!" Infuriated, he rushed at two of the men who were setting down one of the smaller boxes on the sofa.

"This is the address," said the first man in a bored voice. He shoved some papers into Fish's hand. "You don't want 'em, send 'em back. We just deliver 'em." The purple men began to move toward the door.

The spokesman went out last. "Bung, are you a dvich!" he said, and closed the door.

Raging, Fish fumbled for his glasses — they ought to be right *there*, but the movers had upset everything. He went to the door anyway, twitching with anger — dammit, if he could just find his glasses, he'd *report* them, but —

He opened the door. The purple-uniformed men, a little knot of them, were standing in the courtyard looking bewildered. One of them turned a salmon-colored dot of a face. "Hey, which way is—" It sounded like "enchmire."

There was a tremor, and Fish

lurched against the door-frame. It felt like an earth-shock, a heavy one, but when he looked up, the palm trees in the street were not swaying, and the buildings were solid and firm. But the purple men were gone.

Swearing frantically to himself, Fish went back into the living room and slammed the door behind him. The biggest box was in his way. He kicked it and a slat fell out. He kicked it again, grunting with angry satisfaction. The whole side fell down with a clatter, revealing a black-enameled panel. Fish kicked that and bruised his toe.

"Hm," said Fish, looking at the sleek black finish of whatever it was. "Hah." It looked like money.

Peering, he ran his finger along the metal. Cool and smooth. Why, it might be almost anything. Industrial machinery, worth thousands of dollars to the right party. With rising excitement, Fish ran to the table, found his glasses pushed into some magazines, and ran back, fitting the glasses over his little eyes.

He pulled some more slats aside. The box fell away, disclosing an oddly shaped hunk of metal with buttons, dials and pointers in the top. An engraved white plate read: "TECKNING MASKIN," and then some numbers. It sounded ominous and important. Heart beating, Fish rubbed his fingers

over the smooth buttons and the gleaming dial faces. There was a faint click. He had accidentally moved a switch, he saw, from "Av" to "Pa." The dials were lighting up and a set of long hooked arms, like claws, were slowly drifting out over the flat empty space in the middle.

Hastily, Fish turned the switch back to "Av." The lights went out; the arms, looking disappointed, he thought, drifted back into their enclosures.

WELL, it *worked*, whatever it was, which was funny, because, come to think of it, he hadn't plugged it *in* anywhere. Fish stared at the machine uneasily, rubbing his pudgy hands together. Batteries? In a machine that size? And those funny dials, the peculiar *expression* the whole thing had — and "Teckning Maskin," not even English. There it sat, all eight or nine pieces of it, filling up his living room — one crate, he saw with annoyance, blocked off his view of the TV. Suppose it was all some kind of *joke*?

The instant he thought of it, he saw the whole thing in a flash. The crates sitting here, and then in a few days the bill would come in the mail — maybe they wouldn't even take the things away until he'd paid the shipping — and all the time the joker would be laughing himself sick, laughing, who-

ever it was that had ordered the machines in Fish's name — some old enemy, or it could even be someone he thought of as a *friend* —

With tears of rage in his eyes, he rushed to the door again, flung it open and stood panting, staring around the courtyard. But there was nobody there. He slammed the door and stood looking helplessly at the crates. If they would fight *fair* — How was he going to watch *Dragnet*, and, good heaven, where was he going to talk to clients, in the *kitchen*?

"Oh!" said Fish, and he kicked another crate hard. Slats gave and something fell out, a little yellow booklet. Fish glimpsed more black-enameled machinery inside. He bent wildly to pick up the booklet and tried to tear it across, but it hurt his hands. He threw it across the room, shouting, "Well, then!" He danced from one crate to another, kicking. Slats littered the floor. Gleaming machines stood up from the mess, some with dials, some without. Fish stopped, out of breath, and stared at them with a new bewilderment.

A trick, no, it couldn't be; big industrial machines like that, it wasn't like ordering something from a department store. But then what? A mistake.

Fish sat down on the arm of a chair and frowned, scrubbing his beard with his fingers. In the first

place, now, he hadn't *signed* anything. Even if they came back tomorrow, if he could manage to get rid of say one piece, he could always claim there had been seven instead of eight. Or suppose he even got rid of all of it, discreetly, of course, then when they came back he could simply deny the whole thing. Say he never heard of any machinery.

Fish's nerves began to twitch. He jumped up, looked around, sat down. Speed, speed, that was the thing. Get it over with. But what kind of machinery was it?

Fish frowned, squirmed, got up and sat down again. Finally he went to the phone, looked up a number and dialed. He smoothed down his vest, cleared his throat musically. "Ben? This is Gordon Fish, Ben . . . Just fine. Now, Ben—" his voice dropped confidentially — "I happen to have a client who wants to dispose of a Teckning Maskin. Eight — What? Teckning Maskin. It's machinery, Ben. T,E,C,K,N,I,N,G—No? Well, that's the name they gave me; I have it written down right here. You never—? Well, that's funny. Probably some mistake. I tell you, Ben, I'll check back and see — Yes, thanks a lot. Thanks, Ben, bye-bye."

HE hung up, chewing his whiskers in vexation. If Ben Abrams had never heard of it, then there

couldn't be any market for it, not in this part of the country anyhow . . . Something funny. He was beginning to have a hunch about this thing now. Something —

He prowled around the machines, looking at them this way and that. Here was another engraved white plate; it said "TECK-NING MASKIN," and under that "BANK 1," and then two columns of numbers and words . . . "3 Folk, 4 Djur, 5 Byggnader," and so on, a lot more. Crazy words, it didn't even look like any language he'd ever heard of — and then those maniacs in the purple uniforms. Wait a minute —

Fish snapped his fingers, stopped, and stood in a pose of thought. Now what was it that fellow had said just as he was leaving? It had made him mad, Fish remembered—something like, "Boy, are you a dvich." Made him mad as a hornet, it *sounded* insulting, but what did it *mean*?

And then that kind of earthquake just before they got here — woke him up out of a sound sleep, left him feeling all funny — and then another one after they left, only *not* an earthquake, because he remembered distinctly that the palm trees didn't even tremble.

Fish ran his finger delicately over the shining curved edge of the nearest machine. His heart was thumping; his tongue came out to lick his lips. He had a feeling —

no, really he *knew*—nobody would be coming back for the machines.

They were his. Yes, and there was money in them somewhere; he could smell it. But how? What did they *do*?

He opened all the crates carefully. In one of them, instead of a machine, there was a metal box full of creamy-thick sheets of paper. They were big rectangular sheets, and they looked as if one would just about fit onto the flat center space on the biggest machine. Fish tried one, and it did.

Well, what could go wrong? Fish rubbed his fingers nervously, then turned the switch on. The dials lighted and the hooked arms drifted out, as before, but nothing else happened. Fish leaned nearer again and looked at the other controls. There was a pointer and a series of marks labeled "Av," "Bank 1," "Bank 2," and so on down to "Bank 6." He moved the pointer cautiously to "Bank 1." The arms moved a little, slowly, and stopped.

What else? Three red buttons marked "Utplana," "Torka," and "Avsla." He pushed one, but nothing happened. Then a series of white buttons, like on an adding machine, all numbered. He pressed one down at random, then another, and was about to press a third when he leaped back in alarm. The hooked arms were moving, rapidly and purposefully. Where they passed over the paper, thin

dark-gray lines were growing.

Fish leaned closer with his mouth open and his eyes bulging. The little points under the ends of the arms were riding smoothly over the paper, leaving graceful lines behind them. The arms moved, contracted on their little pivots and springs, swept this way and that; lifted slightly, dropped again and moved on. Why, the machine was drawing — drawing a picture while he watched!

THERE was a face forming under the arm over on the right, then a neck and shoulder — kind of a sappy-looking man, it was, like a Greek statue. Then over here on the left, at the same time, another arm was drawing a bull's head, with some kind of flowers between the horns. Now the man's body — he was wearing one of those Greek togas or whatever you call them — and the back of the bull curving around up on top — and now the man's arm, and the bull's tail, and now the other arm, and the bull's hind legs—

There it was. A picture of a man throwing flowers at this bull, who was kind of leaping and looking at the man over his shoulder. The arms of the machine stopped moving and then pulled back out of sight. The lights went out and the switch clicked by itself back to "Av."

Fish took the paper and looked

it over, excited but a little disappointed. He didn't know anything about *art*, of course, but he knew this was no good — all flat-looking and kind of simple, like a kid would draw. And that bull, who ever saw a bull dancing like that? With flowers between its horns?

Still, if the machine would draw this, maybe it would draw something better; he couldn't quite see the angle — where would you sell drawings, even good ones? — but it was there somewhere. Exhibit the machine, like in a fair of science and industry? No, his mind hurriedly buried the thought — too exposed, too many questions. If Vera found out he was still alive, or if the police in Scranton—

Drawings. A machine that made drawings. Fish looked at it, all eight lumpy black-enameled massive pieces of it scattered around his living room. It seemed like a lot of machinery just to make *drawings*. He admitted it, he was disappointed; he had expected — well, metal stampings or something like that, something real. Crash, bang, the big metal jaw comes down, and tink, the bright shaped piece falls out into the basket. There was machinery for you; but this —

Fish sat back and pondered, twitching the paper disapprovingly between his fingers. Things were always letting him down like

this. Really, his best line was marriage — he had been married five times and always made a little profit out of it — he smoothed the vest down over his suety front; between times, he turned to whatever was handy, Marital Counseling some years, or gave Life Readings if he could get enough clients; or Naturopathy, it all depended, but somehow every time it looked as if he had a real gold mine, it slipped out from under his hand.

He reddened with discomfort as he thought of the one winter he had been forced to go to work in a *shoe store*.

Having this house had softened him up, too. He had been getting lazy, just a client or two a week for Life Readings. He ought to be getting busy, working up new contacts before his money ran out.

The thought of poverty, as it always did, made him ravenously hungry. He kneaded his stomach. Time for lunch. He got his jacket hurriedly, and as an afterthought rolled up the drawing — it would not fold — and tucked it under his arm.

HE drove to the barbecue place three blocks down the boulevard where he had been eating a lot of his meals lately, to save funds. The counterman was a young fellow named Dave, lean and pale, with a lock of straight

dark hair falling over his forehead. Fish had got into friendly conversation with him and knew he was going to art school nights, over in Pasadena. Fish had tried to get him over for a Life Reading, but the youngster had said frankly that he "didn't believe in it," in such an honest and friendly way that Fish bore him no ill will.

"Bowl of chile, Dave," he said cheerfully, hoisting himself up on a stool with the rolled drawing precariously on his lap. His feet dangled; the paper was squeezed tight between vest and counter.

"Hello, Doc. Coming up." Fish hunched forward over the bowl, loosening his collar. The one other customer paid and left.

"Say, Dave," said Fish indistinctly, munching, "like to get your opinion of something. Unh." He managed to get the rolled paper free and opened it on the counter. "What do you think — is it any good?"

"Say," said Dave, coming nearer. "Where'd you get *that*?"

"Mm. Nephew of mine," Fish answered readily. "He wants me to advise him, you know, if he should go on with it, because—"

"Go on with it! Well, say — Where's he been studying, anyhow?"

"Oh, just by himself, you know — back home." Fish took another mouthful. "Ver' bright boy, you understand, but—"

"Well — gee, if he learned to draw like that by himself — why, he must be a world-beater."

Fish forgot to chew. "You really mean it?"

"Why, sure. Listen, are you sure he drew this himself, Doc?"

"Oh, certainly." Fish waved the imputation of dishonesty away. "Ver' honest boy, I know'm well. No, 'f he tells me he drew it, why—" he swallowed— "he drew it. But now don't fool me, is it — do you really think it's as good—"

"Well, I tell you the truth, when I first saw it, I thought Picasso. You know, his classical period. Of course I see now it's different, but, my gosh, it's good. I mean, if you want my opinion, why—"

Fish was nodding to indicate that this only confirmed his own diagnosis. "M-hm. M-hm. Well, I'm glad to hear you say it, son. You know, being a relative of the boy, I thought — Of course, I'm very impressed. Very impressed. I thought of Picasso, too, same as you. Of course, now from the money end of it—" he wagged his head dolefully — "you know and I know—"

DAVE scratched his head under the white cap. "Oh—well — he ought to be able to get commissions, all right. I mean, if I had a line like that—" He traced in air the strong outline of the man's lifted arm.

"Now when you say commissions—" Fish said, squirming with eagerness.

"Oh, well, for portraits, or industrial designs, or you know, whatever he wants to go in for." Dave shook his head in admiration, staring at the drawing. "If this was only in color—"

"How's that, Dave?"

"Why, I was just thinking—see, there's a competition up in San Gabriel for a civic center mural. Ten-thousand-dollar prize. Now I don't know, it might not win, but why don't you have him render this in color and send it in?"

"Color," said Fish blankly.

The machine wouldn't color anything, he was sure. He could get a box of water color paints, but —

"Well, now, the fact is," he said, hastily revolving ideas, "you know, the boy is laid up. Hurt his hand—oh, not serious," he said reassuringly (Dave's mouth had fallen into a circle of sympathy), "but won't be able to draw any more pictures for a while. It's a shame, he could use the money, you know, for doctor bills—" He chewed and swallowed. "Tell you, this is just a wild idea now, but— why couldn't you color it up and send it in, Dave? Course, if it doesn't win, I couldn't pay you, but—"

"Well, gee, I don't know how he'd like that, Doc. I mean, suppose he'd have something else in

mind, like, some other color scheme altogether. You know, I wouldn't like to—"

"I'll take full responsibility," said Fish firmly. "Don't you worry about that, and— if we win, why, I'll see that you're paid handsomely, Dave. Now, there, how's that?"

"Well, sure, then, Doc. I mean sure," said Dave, nodding and blushing. "I'll do it tonight and tomorrow, and get it right off in the mail, okay? Then — oh, uh, one thing, what's your nephew's name?"

"George Wilmington," said Fish at random. He pushed the cleaned chile bowl away. "And, uh, Dave, I believe I'll have an order of ribs, with french fries on the side."

Fish went home with a vastly increased respect for the machine. The mural competition, he was positive, was in the bag. Ten thousand dollars! For one drawing! Why, there was millions in it!

He closed and locked the front door carefully behind him, and pulled down the venetian blinds to darken the gloomy little living room still further. He turned on the lights. There the machine still was, all eight gleaming pieces of it, scattered around on the floor, the furniture, everywhere. He moved excitedly from one piece to another, caressing the slick black surfaces with his palm. All that expensive machinery — all his!

Might as well put it through its paces again, just to see. Fish got another sheet of creamy paper from the stack, put it in position, and turned the switch to "Pa." He watched with pleasure as the dials lighted, the hooked arms drifted out and began to move. Lines grew on the paper: first some wavy ones at the top, could be anything. And farther down, a pair of long up-curved lines, kind of handlebar-shaped. It was like a puzzle, trying to figure out what it was going to be.

UNDER the wavy lines, which Fish now perceived to be hair, the pointer drew eyes and a nose. Meanwhile, the other one was gliding around the outline of what, it became clear in a moment, was a bull's head. Now here came the rest of the girl's face, and her arm and one leg — not bad, but kind of beefy — and now the bull's legs, sticking out all different ways, and then, whoops, it wasn't a bull: there was the *whatyoumaycallum* — a cow. So, a girl riding on a cow, with flowers between the horns like before.

Fish looked at the drawing in disappointment. People and cows — was that all the thing could *do*?

He scrubbed his beard in vexation. Why, for heaven's sake, suppose somebody wanted a picture of something *besides* cows and people? It was ridiculous — eight

big pieces of machinery —

Wait a minute. "Don't go off half-cocked, Gordon," he told himself aloud. That was what Florence, his second, always used to say; except she always called him "Fishy." He winced with discomfort at the memory. Well, anyway, he noticed now that the same buttons he had pressed down before were still down. That must have something to do with it.

Struck by another thought, he trotted over and looked at the machine marked "Bank 1." Now this list here, number 3 was "Folk," and number 4 was "Djur." Those were the numbers he had pressed on the big machine, so — maybe "folk" meant *people*, and "djur," why, that might be some crazy word for *cattle*. Then if he pressed a different set of buttons, why, the machine would have to draw something else.

In fifteen minutes, he verified that this was the case. Pressing down the first two buttons, "Land" and "Planta," gave him drawings of outdoors scenes, just hills and trees. "Folk" was people and "Djur" seemed to be animals; now he got goats or dogs instead of cows. "Byggnader" was buildings. Then it got more complicated.

A button marked "Arbete" gave him pictures of people at work; one labeled "Kärlek" produced scenes of couples kissing — all in

the same kind of Greek-looking clothes, and the landscapes and buildings were sort of vague and dreamy. Then there was a whole row of buttons under the heading "Plats," and another headed "Tid," that seemed to control where and when the pictures were about. For instance, when he pressed "Egyptisk" and "Gammal," along with "Folk," "Byggnader," and on a hunch, "Religion," he got a picture of some priests in Egyptian head-dresses, bowing in front of a big statue. Now *there* was something!

THE next day he nailed up the crates again, leaving the tops loose so that he could remove them whenever he wanted to use the machines. In the process, he came across the little yellow booklet he had thrown away. There were diagrams in it, some of which made sense and some didn't, but the printing was all in the same unfamiliar language. Fish put the booklet away in a bureau drawer, under an untidy heap of clothes, and forgot about it.

Grunting and sweating, he managed to push the smaller crates into corners, and rearranged the furniture so there was room to put the big one against the wall. It still looked terrible, but at least he could get around, and have clients in, and he could see the TV again.

Every day he ate lunch at the

barbecue place, or at least stopped in, and every day, when Dave saw him come in, he shook his head. Then all afternoon he would sit with a glass of beer, or maybe a plate of nuts or fudge, watching the machine draw. He used up all the papers in the stack and started turning them over to use the other sides.

But where was the money to come from? After some thought, Fish built a simple magic-writing box and used it with his Egyptian drawings — he had a dozen, all of different gods, but after the first one the machine didn't draw any priests—to show clients what they had been up to in previous incarnations. He began to get a little more business, and once or twice his instinct told him he could raise the fee on account of the drawings, but that was only pocket money. He knew there was *millions* in it, he could almost taste it, but where?

Once it occurred to him that maybe he could take out a patent on the machine and sell it. Trouble with that was he didn't have any idea how the thing worked. It seemed like the little machines must have pictures inside, or pieces of pictures, and the big machine put them together — how?

Fuming with impatience, Fish took the big crate apart again, moved furniture out of the way, and fumbled at the smooth black

side of the machine to see if there was any way of opening it up.

After a moment, his fingers found two shallow depressions in the metal; he pushed experimentally, then pressed upward — and the side plate of the machine came off in his hands.

It weighed almost nothing. Fish put it aside, staring doubtfully into the interior of the machine. It was all dark in there, nothing but a few very tiny specks of light, like mica dust hanging motionless. No wires, nothing. Fish got a sheet of paper and put it in position, and turned the machine on. Then he squatted down. The tiny specks of light seemed to be moving, circling slowly around one another in time to the motion of the drawing arms. It was darker in there, and looked farther away somehow, than it had any right to.

Holding the front of the machine, Fish touched another shallow depression, and without really meaning to, he pushed upward. The whole front of the machine fell off, and the other side with it.

He sprawled backward frantically to get out of the way: but the top of the machine didn't fall. It stayed there, rock-steady, although there was nothing holding it up but the back panel.

And underneath, nothing. No framework, just the thick darkness, with the little stars going slowly around as the machine drew.

Fish hastily picked up the front and side panels and put them back. They slid easily and perfectly into place, and fitted so closely that he couldn't see any line between them.

After that, he put the crate back together and never tried to look inside the machines again.

DAVE hurried around the end of the counter to him. "Doc! Where have you been?" He was drying his hands on his apron and grinning nervously, with a sort of pole-axed expression around his eyes. A customer around the other side of the counter looked up, then went on chewing with his mouth open.

"Well, I had quite a lot of things to do," Fish began automatically. Then he began to feel excited. "Say! You don't mean—"

Dave fished a long white envelope out of his back pocket. "Came yesterday! Look here!" The envelope crackled in his nervous fingers. He pulled out a folded letter and Fish seized it. Dave looked over his shoulder, breathing heavily, as he read.

Dear Mr. Wilmington:

It is my very great pleasure to inform you that your design has been awarded the First Prize in the San Gabriel Civic Center Mural Competition. In the opinion of the judges, the classic sim-

plicity of your entry, together with its technical mastery, made it far superior to anything else submitted.

Enclosed please find our check for three thousand dollars (\$3,000.00) . . .

"Where?" cried Fish, looking up.

"Right here," said Dave, with a grin that looked painful. He held up a salmon-colored strip of paper. The red-printed lettering read: "EXACTLY 3,000.00***** DOLLARS*****."

Fish hugged Dave, who hugged him back, and then looked at the letter again.

the remainder to be paid when the design is executed to the satisfaction of the Committee.

"Executed?" said Fish, with a sinking feeling. "What's that mean? Dave, what's it mean here, where it says—"

"When he paints the mural on the wall. Gee, Doc, I just can't tell you—"

"Who?"

"Your nephew. George Wilmington. See, when he paints the mural—"

"Oh," said Fish. "Oh. Well, you see, Dave, the fact is—"

Dave's long face grew solemn. "Oh, gosh, I never thought. You mean he's not well enough to draw yet?"

Fish shook his head, mournfully. "No, sir. It's a terrible shame, Dave, but—" He folded the check absently and slipped it into his pocket.

"I thought you said, I mean, it wasn't serious or anything—"

Fish continued to shake his head. "Turned out there was more to it than they thought. It looks like now they just don't know when he'll ever be able to draw again."

"Oh, Doc," said Dave, stricken.

"That's the way it is. These things — the doctors don't know as much about 'em as they'd like you to think, Dave."

FISH went on staring fiercely at the letter, barely listening to the sound of his own voice. *To be paid when the design is executed . . .*

"Look here," he said, interrupting Dave's murmurs of commiseration. "It don't say *who* has to execute it, now does it? Notice right there? Says 'when the design is executed'—"

"How about a glassa water over here?" called the customer.

"Coming right up, sir. Look, Doc, I think you got an idea." Dave retired sidewise toward the counter, still talking. "You know, anybody could scale that up and do the actual painting — any competent artist, I mean. Gee, I'd do it myself, I mean if George didn't mind. And if it was all right with

the committee, why, you know, it would be an opportunity for me." He gave the customer his water, mopped the counter blindly and came back.

Fish leaned over the counter, beard in hand, frowning. "Wilmington" was just a name — Dave could take the part just as well as not, and it would be a lot better in one way, because then Fish himself could stay out of sight —

But, whoops, if they did that, then Dave would be Wilmington, and he might want to take off on his own . . .

"Well, Dave," he said, "are you a good artist?"

Dave looked embarrassed. "Gee, Doc, you put me on the spot, but — well, anyway, they liked how I rendered the design, didn't they? See, I used a color scheme of deep aqua and a kind of buff, with accents of rose — you know, to make it cheerful? And, gee, if I did it on the paper, I could do it on a wall—"

"Sold!" said Fish heartily, and clapped Dave on the shoulder. "George don't know it yet, but he just got himself an assistant!"

A SLIM female figure popped up at him suddenly from beside a potted palm. "Mr. Wilmington? If I could just have a moment—"

Fish paused, one hand going to his chin in the old gesture, al-

though he had shaved off the beard over a year ago. He felt exposed without it and his features tended to twitch when he was startled like this. "Why, yes, uh, Miss—"

"My name is Norma Johnson. You don't know me, but I have some drawings here—"

She was carrying a big black portfolio, fastened with tapes. Fish sat down beside her and looked at the drawings. They looked all right to him, but skimpy, like the kind of thing he turned out mostly himself. What he *liked* was pictures with some meat to them, like Norman Rockwell, but the one time he had set the machine to draw something like that, his agent—the first one, Connolly, that crook! — had told him there was no market for "genre stuff."

The girl's fingers were trembling. She was very neat and pale, with black hair and big expressive eyes. She turned over the last drawing. "Are they any good?" she asked.

"Well, now, there's a good deal of spirit there," said Fish comfortably. "And a very fine sense of design."

"Could I ever be successful at it?"

"Well—"

"See, the thing is," she said rapidly, "my Aunt Marie wants me to stay here in San Francisco and come out next season. But I

don't want to. So she agreed, if you said I had real talent, that she would send me abroad to study. But if you didn't, I'd give up."

Fish looked at her intently. Her fingernails were short but looked cared for. She was wearing a simple white blouse and a little blue jacket and skirt; there was a whiff of woodsy perfume. Fish smelled money.

He said, "Well, my dear, let me put it this way. Now you could go to Europe and spend a lot of money—ten thousand, twenty thousand dollars—" She watched him without blinking. "Fifty thousand—" said Fish delicately. "But what would be the *point* of it? Those fellows over there don't know as much as they'd like you to think."

She fumbled blindly for her purse and gloves. "I see." She started to get up.

Fish put a pudgy hand on her arm. "Now what *I* would suggest," he said, "why don't you come and study with me for a year instead?"

Her pale face lengthened. "Oh, Mr. Wilmington — *would* you?"

"Well, anybody with as much talent as these drawings—" Fish patted the portfolio on her knee—"why, we have to do something, because—"

She stood up excitedly. "Will you come tell that to Aunt Marie?"

Fish smoothed down the front of his pink shirt. "Why, gladly, my dear, gladly."

"She's right here in the lounge."

HE followed her and met Aunt Marie, who was a handsome woman of about fifty, plump but beautifully tailored in brown linen. They agreed that Norma would take a studio near Mr. Wilmington's home in Santa Monica, and that Mr. Wilmington would look in several times a week and give her the full benefit of his great experience, in return for ten thousand dollars per annum. It was, as Fish pointed out to them, less than half the amount he usually got now for major commissions; but never mind, every little bit helped. Murals, institutional advertising, textile designs, private sales to collectors — God, how it was rolling in!

The only thing that really worried him was the machine itself. He kept it now in a locked inner room of the house he was renting — twenty rooms, furnished, terrific view of the Pacific Ocean, lots of room for parties — and up to a point he could work it like a kiddie-car. One time or another, he had figured out and memorized every one of the dozens of labeled buttons on the "Bank" machines, and just by combining the right ones, he could get any kind of a drawing he wanted. For instance, that com-

mission for stained glass for a church — "Religion," "People," "Palestine," "Ancient," and there you were.

The trouble was the machine wouldn't draw the same thing twice in a row. On that church window job, he got one picture of Christ and then couldn't get another, no matter how long he tried, so he had to fill out with saints and martyrs. The church put up a beef, too.

Then sometimes at night, for his own amusement, he used to put the machine through its paces — such as setting it for "Historical figures" and "Romantisk," which seemed to be the machine's name for the present era, and then push the button marked "Överdriva," and watch the famous faces come out with big cartoony noses, and teeth like picket fences.

Or he would set it for "Love," and then various interesting times and places — ancient Rome gave him some spicy ones, and Samoa was even better.

But every time he did this, the machine turned out fewer drawings; and finally it wouldn't do any more like that at all.

Was there some kind of censor built into the thing? Did it *disapprove* of him?

He kept thinking of the funny way those men in purple uniforms had delivered the thing. They had the right address, but the wrong

— time? Whatever it was, he knew the machine wasn't intended for him. But whom was it meant for? What was a "dvich"?

THERE were eight pieces — six banks, the master machine, and one which he had discovered would enlarge any detail of a drawing to almost full size. He could handle all that. He could manage the controls that governed the complexity or simplicity of a drawing, gave it more or less depth, changed its style and mood.

The only buttons he wasn't sure of were the three red ones marked "Utplana," "Torka," and "Avsla." None of them seemed to do anything. He had tried all three both ways, and they didn't seem to make any difference. In the end, he left them the way they had been, "Torka" down, the other two up, for lack of any better idea. But, big and red like that, they must be important.

He found them mentioned in the booklet, too: "*Utplana en teckning, press knappen 'Utplana.' Avlägsna ett mönster från en bank efter användning, press knappen 'Torka.' Avsla en teckning innan slutsatsen, press knappen 'Avsla.'*"

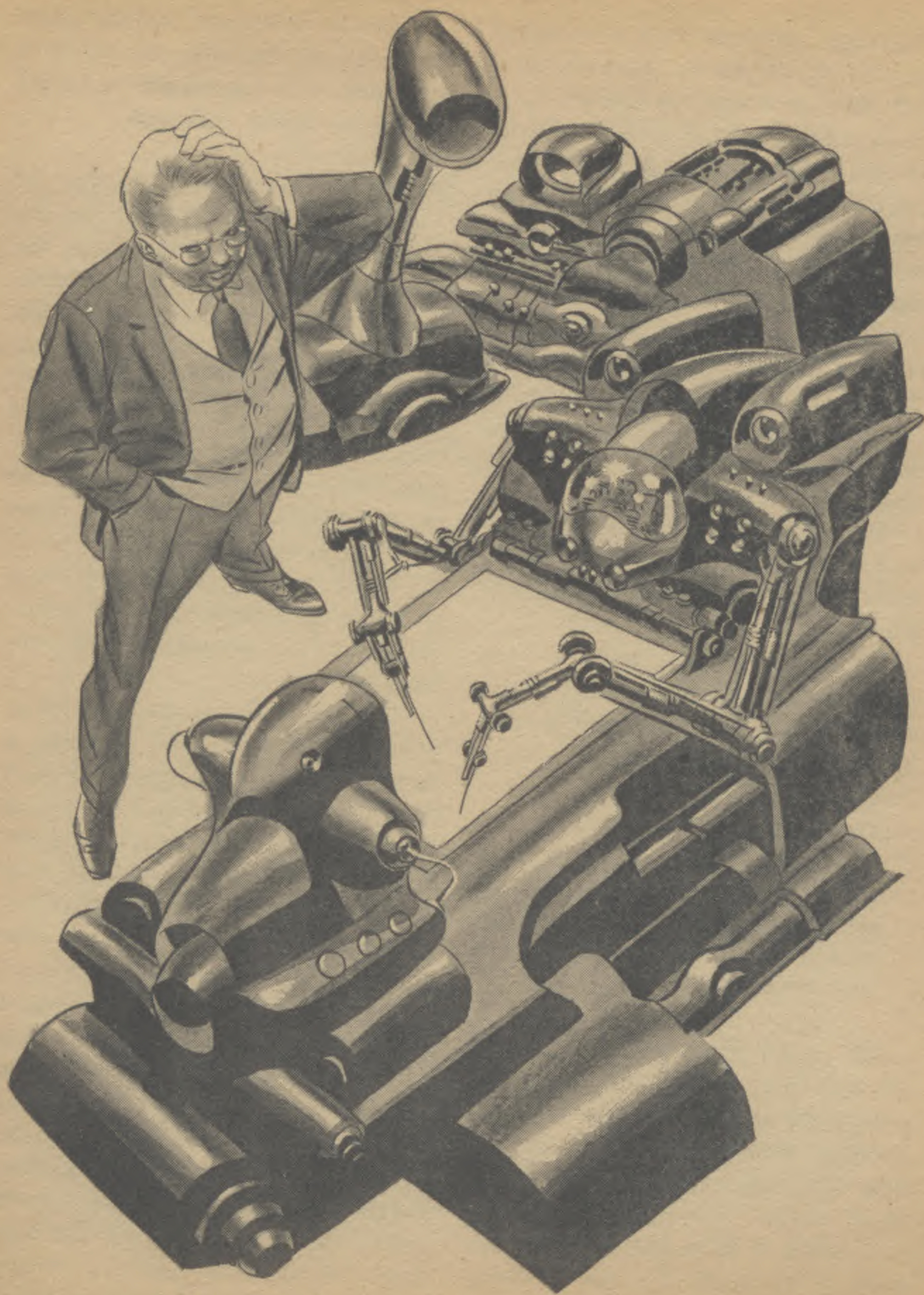
Press knappen, press knappen, that must be "push button." But when? And that business about "mönster," that made him a little nervous. He had been pretty lucky so far, figuring out how to work

the whole machine without any accidents. Supposing there was still something that could go wrong — suppose the booklet was a warning?

He prowled restlessly around the empty house — empty, and untidy, because he wouldn't have any servants in the place. You never knew who was going to spy on you. A woman came in two days a week to clean the place up, all but the locked room, and once in a while he'd bring a couple of girls up for a party, but he always threw them out the next morning. He was busy all right, seeing a lot of people, traveling around, but he'd had to drop all his old friends when he decided to become Wilmington, and he didn't dare make any new ones for fear of giving himself away. Besides, everybody was out for something.

The fact was, dammit, he wasn't happy. What good was all the money he was making, all the things he'd bought, if they didn't make him happy? Anyhow, pretty soon now, that oil stock would start paying off—the salesman had assured him that the drillers were down within a few hundred feet of oil right now — and then he'd be a millionaire; he could retire, move to Florida or someplace —

He paused in front of his desk in the library. The booklet was still there, lying open. The thing was, even suppose that was some



language anybody had ever heard of, whom would he dare show it to? Whom could he trust?

An idea occurred to him and he leaned over, staring at the yellow pages with their incomprehensible text. After all, he could already figure out some of the words; he didn't have to show anybody the whole book, or even a whole sentence. Then there was that information business that came with his deluxe set of the *Encyclopaedia Britannica* — he ought to have it right here somewhere —

Fish hunted in the file drawers and finally came up with a folder and a sheet of gummed yellow stamps.

Grunting, he sat down at the desk, and after much cigar-chewing, scribbling and crossing out, he typed the following:

Dear sirs:

Kindly inform me as to what language the enclosed words are, and also what they mean. Kindly give this matter your best attention, as I am in a hurry.

On a separate sheet, he wrote all the doubtful words from the paragraph about the red buttons, cannily mixing them up so no one could guess what order they came in.

Feeling a little foolish, he carefully drew in all the tiny strange dots.

Then he addressed an envelope, stuck one of the yellow stamps to his letter, and mailed the thing off before he could regret it.

"MY rhetorical question is," said Fish craftily to the young physicist, shouting over the hum of cocktail-party conversation, "purely in interests of science, could you make a machine that would draw?" He beamed over his glasses at the horn-rimmed blur of the young man's face. He had had three martinis, and whew! he was floating. But fully in command of senses, of course.

"Well, draw what? If you mean charts and graphs, sure, or something like a pantograph, to enlarge—"

"No, no. Draw *beau'ful* pictures." The last word sprayed a little. Fish rocked forward and back again. "Purely rhetorical question." He put his glass down with precision on a passing tray and took another one which spilled icy liquid down his wrist. He gulped to save it.

"Oh. Well, in that case, no. I would say not. I assume you mean it would originate the drawings, not just put out what was programmed into it. Well, that would mean, in the first place, you'd have to have an incredibly big memory bank. Say if you wanted the machine to draw a horse, it would have to know what a horse looks

like from every angle and in every position. Then it would have to select the best one for the purpose out of say ten or twenty billion — and then draw it in proportion with whatever else is in the drawing, and so on. Then, for God's sake, if you wanted *beauty* too, I suppose it would have to consider the relation of every part to every other part, on some kind of esthetic principle. I wouldn't know how to go about it."

Fish, thick-fingered, probed for his olive. "Say it's impossible, hey?" he asked.

"Well, with present techniques, anyhow. I guess we'll be staying out of the art business for another century or two." The blur smiled and lifted its highball glass.

"Ah," said Fish, putting a hand on the young man's lapel to support himself and keep the other from moving out of the corner. "Now suppose you had machine like that. Now—suppose that machine kept forgetting things. What would be reason for that?"

"Forgetting things?"

"What I said." With a disastrous sense that he was talking too much, Fish was about to go on, but a sudden hand on his arm forestalled him. It was one of the bright young men, beautiful suit, beautiful teeth, beautiful handkerchief in pocket. "Mr. Wilmington, I just wanted to say what an ab-

solutely marvelous piece of work that new mural is. One enormous foot. I don't know what the significance is, but the draughtsmanship is marvelous. We must get you on *File Seven* some afternoon and have you explain it."

"Never go on television," said Fish, frowning. He had been fending off invitations like this one for almost a year.

"Too bad. Nice to have met you. Oh, by the way, somebody asked me to tell you there's a phone call for you over there." He waved his arm and drifted away.

FISH excused himself and set an adventurous course across the room. The phone was lying on one of the side tables, giving him a black look. He picked it up jauntily. "Hello-o."

"Dr. Fish?"

Fish's heart began to knock. He put the martini glass down. "Who's that?" he demanded blankly.

"This is Dave Finney, Doc."

Fish felt a wave of relief. "Oh, Dave. I thought you were in Boston. Or I suppose you are, but the connection—"

"I'm right here in Santa Monica. Look, Doc, something's come up that—"

"What? What're you doing here? Now I hope you haven't quit school, because—"

"This is summer vacation, Doc."

Look, the fact is I'm here in Norma Johnson's studio."

Fish stood with the sweaty black phone in his hand and said nothing. Silence hummed in the wires.

"Doc? Mrs. Prentice is here too. We've been kind of talking things over and we think you ought to come over and explain a few things."

Fish swallowed, with difficulty.

"Doc, you hear me? I think you ought to come over. *They're* talking about calling the police, but I wanted to give you a chance first, so—"

"I'll be right over," said Fish hoarsely.

He hung up the phone and stood bemused, with his hand to his flushed forehead. Oh, Lord, three, no four martinis and this had to happen!

He felt dizzy. Everybody seemed to be standing at a slight angle on the kelly-green carpet, all the bright young men in glossy summer jackets and the pastel women in cocktail dresses with bright phony smiles on their faces. What did they care if all he could get out of the machine any more was parts of bodies? His last one a big clenched fist, and now a foot, and don't you think the committee didn't beef, they beefed plenty but they had to take it, because they already announced the commission. Now this morning his agent called up, some church group

in Indiana, they wanted *sample* sketches.

So it was all going down the drain while he watched, and now this. Dave, good God, you'd think at least he would stay stuck off in Boston, and how the *hell* had he ever run into Norma?

One of the newspaper reporters turned away from the free lunch and planted himself in Fish's path as he lurched toward the door. "Mr. Wilmington, what would you say was the real significance of that foot?"

"Gow my way," said Fish, staggering around him.

HE took a cab home, told the driver to wait, ducked in for a quick shower and a cup of black coffee, and came out again, shaky but not as drunk as before. Those damn cocktails . . . He used to never get like this when he just drank beer. Things were better back on Platt Terrace. How did he ever get mixed up in this crazy art game?

His stomach felt hollow. He hadn't eaten any lunch, he remembered. Well, too late now. He braced himself together and rang the bell.

Dave opened the door. Fish greeted him with cries of pleasure, shaking his limp hand. "Dave, boy! Good to see you! How long has it been, anyway?"

Without waiting for a reply, he

bustled on into the room. It was a gray, windowless place that always made him feel trapped. Instead of a roof, there was one big slanting skylight, high overhead; the light filtered down cool and colorless through the translucent panes. There was an easel in one corner, and some drawings pinned up on the otherwise bare walls. Down at the far end, Norma and her aunt were sitting on the red-padded bench.

"Norma, how are you, honey? And Mrs. Prentice — now this is a real pleasure!"

That wasn't hard to say — she really did look good in that new dark-blue suit — he could tell he was projecting the old charm, and he thought he saw her eyes glint with pleasure. But it was only for an instant, and then her expression hardened. "What's this I hear about your not even coming to see Norma?" she demanded.

Fish registered deep surprise.

"Why — why, Norma, didn't you explain to your aunt? Excuse me a minute." He darted over to the drawings on the wall. "Well. Now these are really excellent, Norma. There's a good deal of improvement here. The symmetry, don't you see, and the dynamic flow—"

Norma said, "Those are three months old." She was wearing a man's shirt and dungarees, and looked as if she might have been

crying recently, but her face was carefully made up.

"Well, honey, I wanted to come back, even after what you said. I did come around, twice, you know, but you didn't answer your bell."

"That's not so."

"Well, I suppose you might have been out," said Fish cheerfully. He turned to Mrs. Prentice. "Norma was upset." His voice dropped. "About a month after we started, she told me to get out and not come back."

Dave had drifted back across the room. He sat down beside Norma, without comment.

"The idea of taking the poor child's money for *nothing*," said Mrs. Prentice vehemently. "Why didn't you give it back?"

FISH pulled up a folding chair and sat down close to her. "Mrs. Prentice," he said quietly, "I didn't want Norma to make a mistake. I told her, now, if you'll live up to your agreement and study with me for a year, I said, and then if you're not satisfied, why, I'll gladly refund every cent."

"You weren't doing me any good," said Norma, with a hysterical note in her voice.

Fish gave her a look of sorrowful patience.

"He'd just come in and look at my work and say something like, 'This has a good feeling,' or 'The symmetry is good,' or some mean-

ingless thing like that. I was getting so nervous, I couldn't even draw. That's when I wrote you, Aunt Marie, but you were in Europe. My golly, I had to do something, didn't I?" Her hands were clenched white in her lap.

"There, dear," Mrs. Prentice murmured, and gave her arm a little squeeze.

"I've been going to day classes at the Art Center," Norma said between her teeth. "It was all I could afford."

Mrs. Prentice's eyes sparkled with indignation. "Mr. Wilmington, I don't think we have to discuss this much longer. I want you to return the money I paid you. I think it's disgraceful, a well-known artist like you *stooping*—"

"Mrs. Prentice," said Fish, pitching his voice lower again, "if it wasn't for my faith in Norma's great future as an artist, why, I would hand you over ev-ry cent. But, as it is, she would be making a great mistake, so I suggest again—"

"Doc," said Dave rudely, "you give her back that money now, and pretty damn quick." He leaned forward to speak to the older woman. "You want to know what his real name is? It's *Fish*. Anyhow, it was when I met him. This whole thing is just a joke. Why, he's no artist. The real George Wilmington is his nephew; he's an invalid out in Wisconsin — and

Doc here has just been fronting for him, because he's too sick to stand the publicity and all. Now that's the truth. Or as much of it as I know."

Fish said sorrowfully, "Dave, is this the thanks I get for putting you through art school?"

"You got me the scholarship, but it didn't cost you anything. I found that out from the director. I guess you just wanted to put me out of the way, so I wouldn't talk too much. Well, gee, Doc, that was all right. But when I met Norma over at your place yesterday —

"What? When was that?"

"About ten o'clock." Fish winced; he had been in bed with a bad head and hadn't answered the bell. If he'd only known! "You weren't home, so we got to talking and — well, pretending to be your nephew, that's one thing, but when you promise to teach somebody — when you can't even draw a line yourself!"

GORDON FISH raised a hand. "Now, Dave, there's a thing or two you don't know. You say my real name is Fish. Now did you ever see my birth certificate, or did you know anybody that knew me as a child? How do you know my name is Fish?"

"Well, you *told* me."

"That's right, Dave, I did. And you say the real George Wilmington is an invalid out in Wisconsin.

You ever see him, Dave? You ever been in Wisconsin?"

"Well, no, but —"

"Neither have I. No, Dave —" he lowered his voice solemnly — "every single thing I told you about that was just a lie. And I admit it." Now here was the place for a tear. Fish turned his mind to the creditors, the trouble with the machine, the oil stock salesman who had gone south with his money, the lawyers who were robbing him blind trying to get it back, the ungratefulness of everybody. A warm trickle crept out onto his cheek, and lowering his head, he knuckled it away.

"Well, what —" said Dave, bewildered.

Fish said with an effort, "I had reasons. Certain reasons. You know it's — it's hard for me to talk about 'em. Mrs. Prentice — I wonder if I could see you alone."

She was leaning forward a little, looking at him with concern. It never failed — a woman like that couldn't stand to see a man cry.

"Well, it's certainly all right with me," said Norma, getting up. She walked away and Dave followed her. After a moment, the door closed behind them.

Fish blew his nose, dabbed unobtrusively at his eyes, straightened up bravely and put his handkerchief away. "Mrs. Prentice, I don't s'pose you know that I'm a widower." Her eyes widened a little.

"It's true — I lost my dear wife — I don't usually talk about it, as a matter of fact, but somehow — I don't know if you've been bereaved yourself, Mrs. Prentice —"

She said nervously, "Didn't Norma tell you? I'm a widow, Mr. Wilmington."

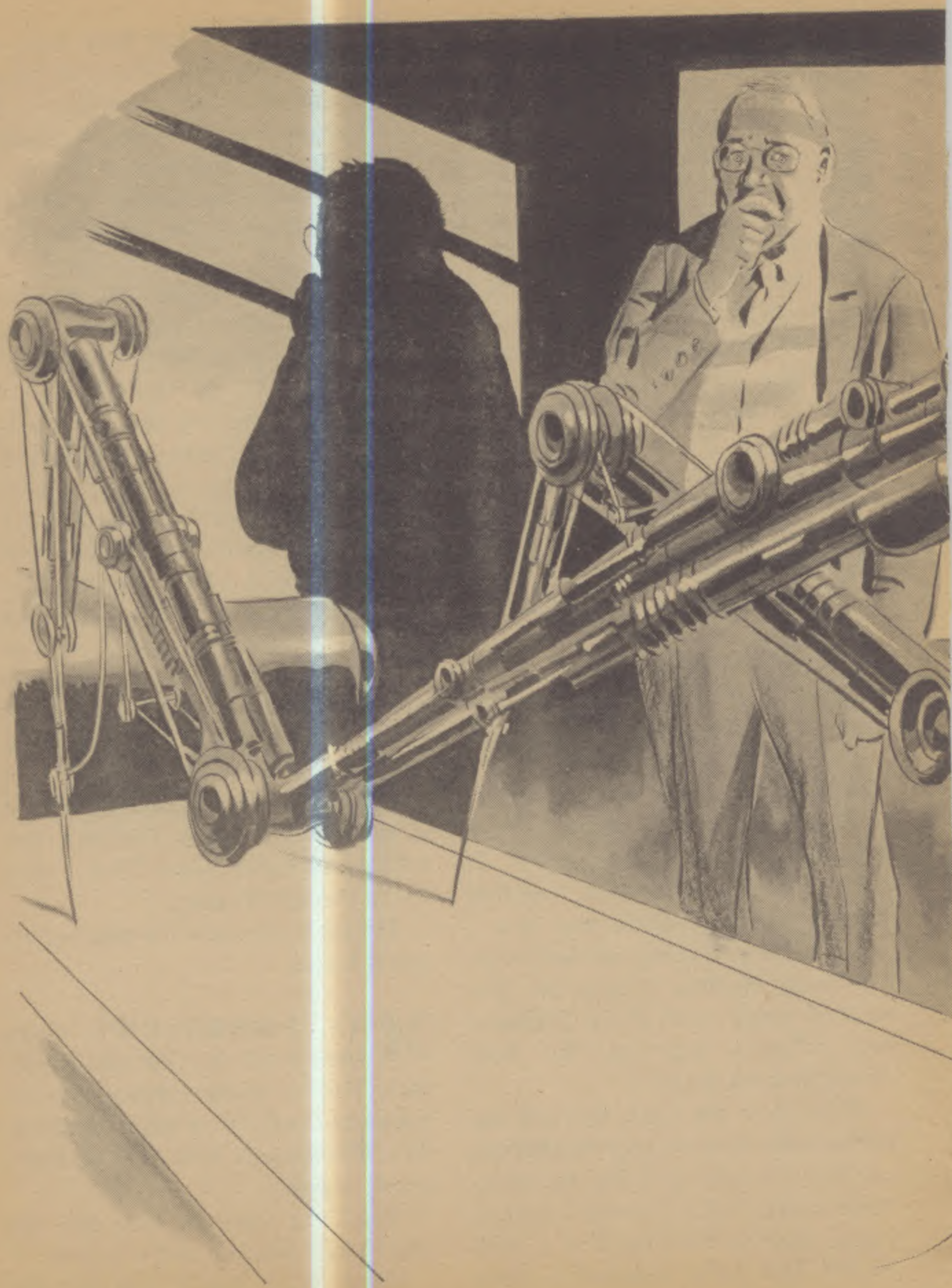
"No!" said Fish. "Isn't that strange? I felt something — you know, a *vibration*. Well, Mrs. Prentice — can I call you Marie? — you know, after my loss —" time for another tear now; once started, they came easily — "I just went to pieces. I couldn't touch a pencil for a year. And even to this day, I can't draw a line if there's anybody watching me. Now — there's the reason for this whole mixup. That business about my nephew and all, that was just a story I made up to make things a little easier. That's what I *thought*. I don't know, I'm so clumsy where it takes a little tact, I'm just like a bull in a china closet, Marie. And that's the whole story."

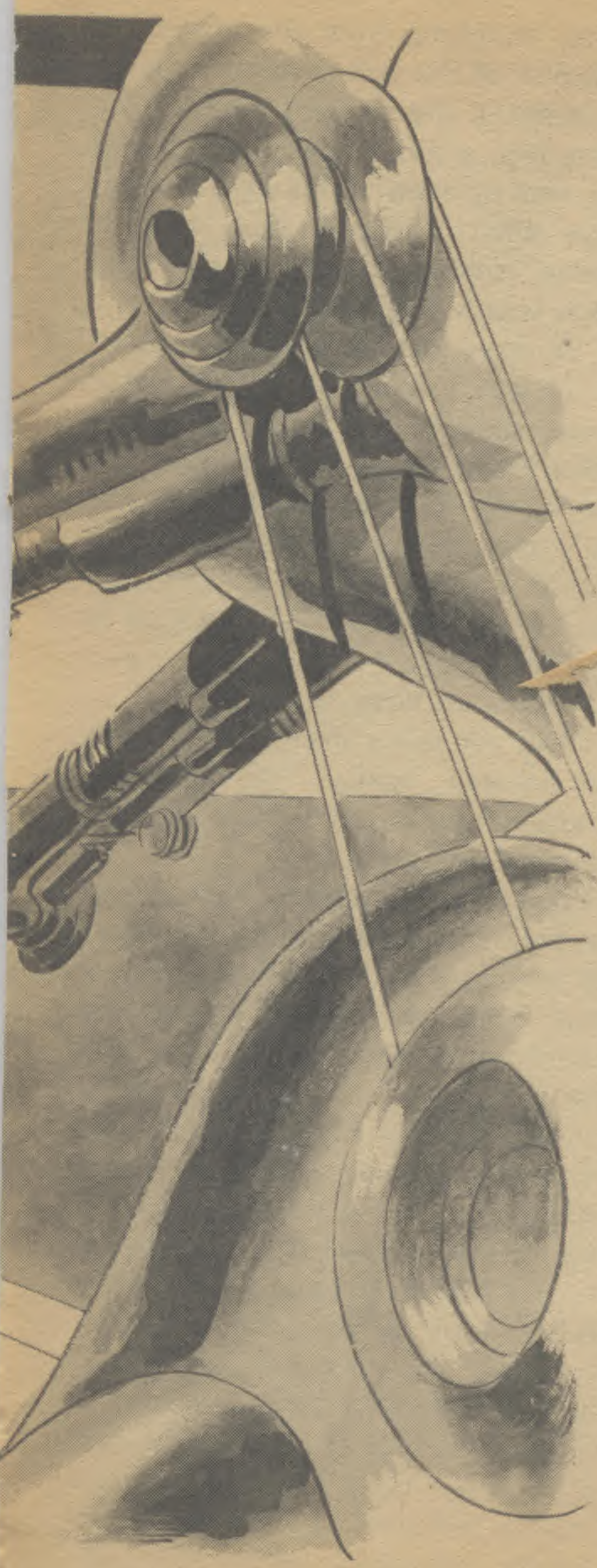
He sat back, blew his nose vigorously again.

MRS. PRENTICE'S eyes were moist, but her handsome face had a wary expression. "I honestly don't know what to think, Mr. Wilmington. You say you can't draw in public —"

"Call me George. You see, it's what psychologists call a *truma* —"

"Well, how would this be? I'll





step outside for a few minutes and you draw a picture. Now I think that would be — ”

Fish was shaking his head sadly. “It’s worse than I told you. I can’t draw *anywhere* except in one room in my house — I’ve got it fixed up with her picture, and some mementoes — ” He gulped hard, but decided against a third tear. “I’m sorry, I’d do it for you if I could, but — ”

She sat quietly in thought for a moment. “Then let’s say this. You go home, Mr. Wilmington, and draw something — a sketch of me, my face, from memory. I believe any competent artist could do that?”

Fish hesitated, not liking to say yes or no.

“Now, you see, that will settle it. You couldn’t get a snapshot of me and send it off to Wisconsin — there wouldn’t be time. I’ll give you, oh, half an hour.”

“Half an — ”

“That should be enough, shouldn’t it? So that when I come to call on you, in half an hour from now, if you have a sketch of me — a likeness — why, then, I’ll know that you’re telling the truth. If not — ”

Boxed in, Fish made the best of it. He got to his feet with a confident smile.

“Well, now, that’s fair enough. One thing, I know I could never forget *your* face. And I want to

tell you how relieved I am that we had this little talk, incidentally, and — Well, I better go and get that drawing started. I'll expect you in half an hour, Marie!"

He paused at the door.

"I'll be there — George," she said.

GRUNTING and twitching, Fish stormed into the house, banging doors behind him. Place was a mess — sofa cushions and newspapers all over the living room — but never mind, she might marry him to clean up his house. Thing was — he unlocked the private room, feverishly swept the cover off the big machine, and began pushing buttons on one of the banks — thing was, get that sketch made. One chance in — how many? But better than no chance at all.

He switched on the machine, watched in helpless impatience while the arms drifted out and hung motionless.

A face — and a likeness! Only hope he had was to put it together from bits and pieces. Nothing left now that would work in the whole machine but some useless items, mechanical drawings and architecture, and a few scraps of anatomy. Let there be enough for one more face — and let it be something like Marie's face!

The machine clicked suddenly and began to trace a line. Fish stood over it in hand-wringing anx-

iety, watching how the combined motion of the two revolving pivots translated the straight push of the arm into a subtle line. Pretty thing to watch, even if he never could like what it made. Now here it came curving around — now the arm was lifting, going back —

A nose! It was drawing a nose!

It was a kind of Greek statue nose, shapely but thick, not much like Marie's fine curved nose, but never mind, he could talk her into it — give him the raw material, he could always sell — let there be any kind of female face, so long as it wasn't ugly —

Come on now, an eye!

But the arms stopped and hung motionless again. The machine hummed quietly; the dials were lit; nothing happened.

Eaten by impatience, Fish looked at his watch, clapped his palm over it, swore, wandered rapidly out of the room. Sometimes, lately, the machine would just sit like that for minutes at a time, as if it were trying and trying to work, but somehow not succeeding, and then click, away it would go again. He hurried back, looked — still nothing — and went off, pacing the empty rooms, looking for something to do.

There was some mail in the basket under the letter drop, he noticed for the first time. Mostly bills — he threw them behind the sofa — but one was a long, bulky brown envelope with "Encyclo-

paedia Britannica Library Research Service" in the corner.

It had been so long ago, it took him a moment to remember. A couple of weeks after he sent in his letter, there had been a polite printed postcard acknowledging it, then nothing for months. Somewhere along the line he had decided he wasn't going to get an answer; there wasn't any such language . . .

Well, let's see. He picked the end of the envelope open.

His restless eye was caught by the dining room clock. Look at the time! Clutching the envelope forgetfully, he rushed into the private room again. The machine was still sitting motionless, humming, lit. There was nothing on the paper but a nose.

Fish pounded on the side of the big machine, with no result except to his fist, and then on the bank that was in use. Nothing. He turned away, noticed he was still holding the envelope, and irritably plucked out the papers inside.

THERE was a stiff orange folder, stapled at the top. When he lifted the cover, there was a single sheet of paper inside. At the top, the Britannica letterhead, and "V. A. Sternback, Director." Then, in the middle, "SWEDISH WORDS."

His eyes ran down the list, startled. There were all the words

he had copied off, and, opposite each one, a word in English. *Teckning* . . . drawing. *Mönster* . . . pattern. *Utplana* . . . to erase. *Användning* . . . application, use.

Fish looked up. Then that was why nothing had happened when he pressed the "Utplana" button — he'd always tried it before the machine made a drawing, never while there was a finished one on the board. Now why hadn't he thought of that? Yes, and here was *Avsla* . . . to reject. And *slutsatsen* . . . completion. "To reject a drawing before completion, press . . ." He'd never done that, either.

What about the middle button? *Torka* . . . to wipe. To wipe? Let's see, there was another word — *Avlägsna*, that was it — sometimes the phrase "*Avlägsna ett mönster*" would be running through his head when he was half awake, like a whispered warning. Here it was. *Avlägsna* . . . to remove.

His hands were shaking. "To remove a pattern from bank after use, press button 'Wipe.'"

He let the folder fall. All this time, not knowing, he'd been systematically using up the precious patterns in the machine, throwing them away one by one, until now there was nothing left — just eight big hunks of useless machinery, made for somebody somewhere who spoke Swedish . . .

The machine clicked softly and the other arm began to move. It

traced a graceful upright line, some distance in front of the nose. It looped over and came back down again, then up . . .

Somewhere distant, the doorbell rang imperiously.

Fish stared mesmerized at the paper. The moving point traced another graceful open loop, then another, like a squeezed-together roller coaster. Then another one, moving inexorably and without hurry: now there were four. With-

out pausing, it extended the last line downward and then brought it across. The line met the tip of the nose and curved back.

The four open loops were fingers. The fifth one was a thumb.

The machine, humming quietly, withdrew its arms into their recesses. After a moment, the lights went dark and the hum stopped.

Outside, the doorbell rang again, and went on ringing.

—DAMON KNIGHT



FORECAST

Next month's is the 8th anniversary issue of *Galaxy*, a large event indeed, and one to be properly celebrated with a suitably impressive present for our readers.

Said present is at hand — a monumental successor to the mighty serials you have read in these pages — *TIME KILLER*, Robert Sheckley's first book-length story, and a heroic saga it is, as you have every reason to expect from this splendidly imaginative, resourceful writer.

TIME KILLER, like all of Sheckley's work, contains surprise upon twist upon trick, and you really wouldn't want a brief summary of it in advance; that would ground the very first shock.

Let's say instead:

It stands to reason that the last thing a man can bungle is his own death. But not Blaine. He has some finished business left to unfinish!

Novelets and short stories and our regular features, of course, with a neighborly suggestion not to miss Willy Ley's discussion of "X-Rays in Space." There's more to cosmic radiation than meets the Earth, as our orbiting instrumentation far, far above the atmosphere constantly warns the experts—and Ley points out the mysteries that have unexpectedly appeared, as well as those that were anticipated in theory — and if you don't know how well along we are in solving those mysteries, you may find some of your strongest convictions as outdated as antiphlogiston. We wouldn't want that to happen, would we?

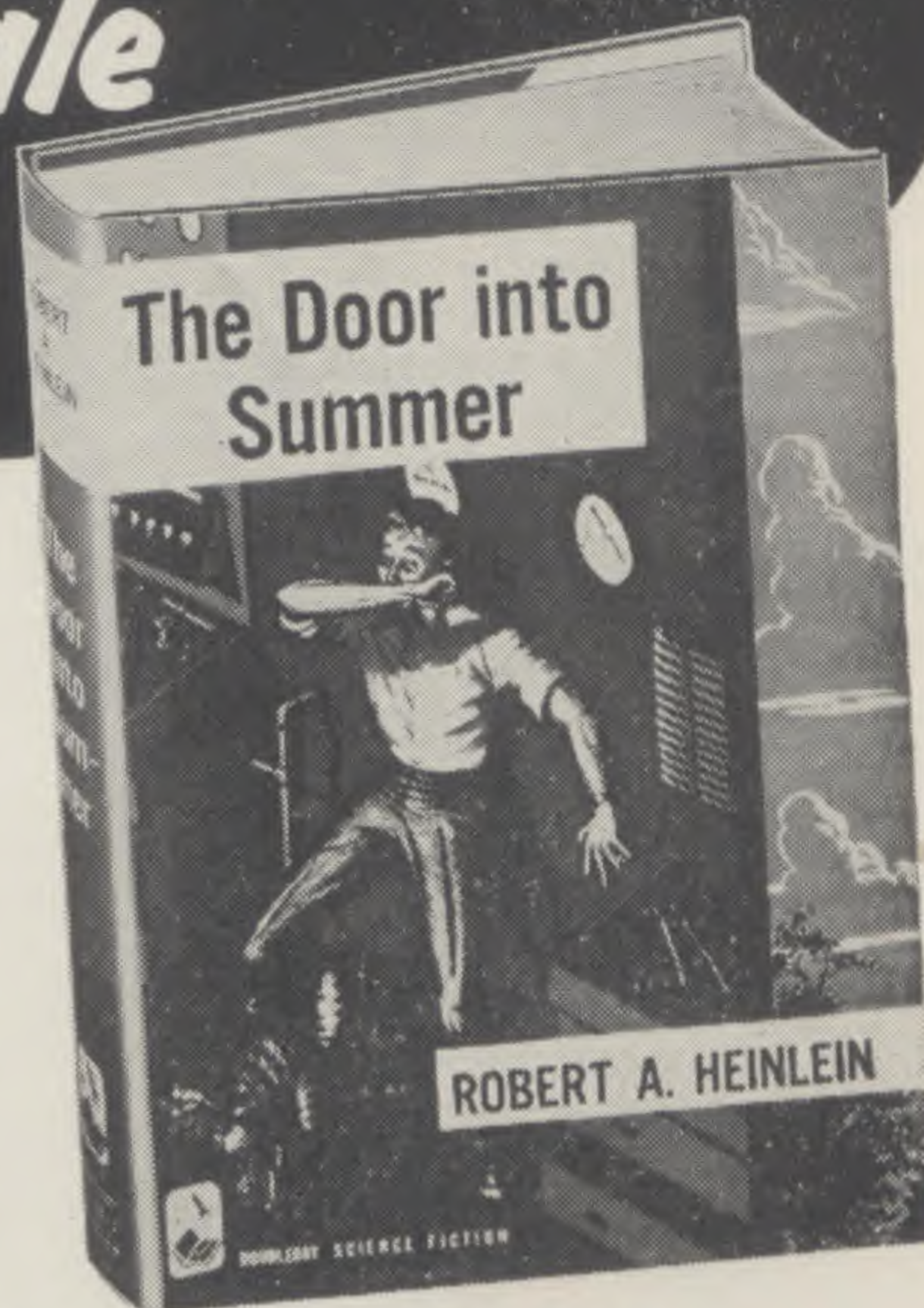
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—Continued from Back Cover

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But there are other attractions in that world of 2000: its women in "sticktite" clothes they just throw away after wearing...its honeymoon trips to the moon...its remarkable new conveniences...its brand new words of love and ways to live. No more menial labor. Robots take care of all that. Soon you're enjoying life as never before! You're glad to be out of that miserably backward world of the 20th century.

But unfortunately you *must* get back to the year 1970, to take care of one last urgent mission. You only hope that you can come back to the 21st century by taking "The Long Sleep" again. The big question is: Can it be done?

—Continued on other side



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